PRUNING SHEARS

WOOD HANDLE

Best cast steel blades, full polished, heavy steel ferrules, varnished wood handles. Length over all 26 inches.

No. 20. Weight per dozen 45 pounds.....per dozen, **$27.00**

CONNECTICUT PATTERN

Polished steel blade, screwed, brass plated coil spring and fastening clip, black japanned handles.

No. 0. 9 inch, weight per dozen 9¾ pounds..per dozen, **$14.00**

One half dozen in a box

CALIFORNIA PATTERN

Polished, tempered steel blade, riveted, volute spring, end fastening clip. Bolt has adjusting nut and regulating ratchet, dead black finish, malleable iron head and handles.

No. R50. 9 inches, weight per dozen 10½ pounds. .....per dozen, **$26.00**

One half dozen in a box

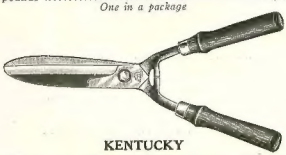
HEDGE SHEARS

WILKINSON

Hand forged solid cast steel blades, bolted, locking spring washer, steel ferrules. Varnished handles.

No. 101. 8 inches, notched blade, weight each 3¼ pounds .....each, **$3.75**

One in a package



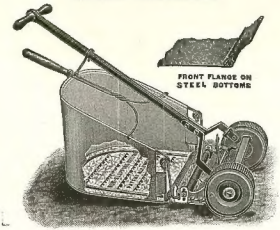
KENTUCKY

Half polished solid steel blades, with extra thin ground bevels and offset shanks. Heavy polished steel bolt with lock nut and tempered spring washer.

No. 88. 7 inch blades, 16 inches over all, weight per dozen 20 pounds.....per dozen, **$30.00**

One in a package

GRASS CATCHERS



EASY EMPTYING

View of Galvanized Non-Slipping Bottom

Easy Emptying Grass Catchers have round back, heavy duck sides, improved wood handle and method of attaching to frame.

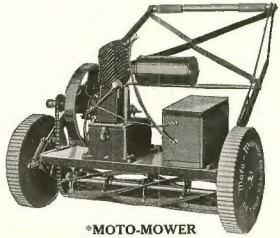
The rigid handle enables the catcher to be readily emptied, the adjustable flange prevents grass from slipping forward.

The slotted bracket at the sides and the curved hook over the handle permit adjusting for any height from the ground.

No. 1G. 20x18 inch for 12 to 18 inch mowers, weight per dozen 50 pounds.....per dozen, **$30.00**

One half dozen nested, in burlap bundle

LAWN MOWERS



*MOTO-MOWER

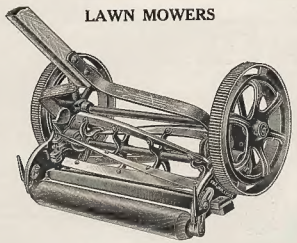
One half horsepower operates the cutter and propels the mower. It is strongly built of best material, carefully machined and assembled. It requires little attention, having automatic release between motor and reel. There are no gears or exposed parts to accumulate oil and grit, no oil holes to clog, few adjustments.

It is easily operated and self-sharpening. Runs easily and will cut lawns too soft for horse-drawn mower. Saves time and worry, very economical in use, burning but one-eighth gallon of gas per hour of operation.

Moto-Mower. 27 inch cut, weight 125 pounds...each, **$325.00**

*Not carried in stock; will ship from factory.

LAWN MOWERS



NEW CRANBERRY

High Wheel, Ball Bearing

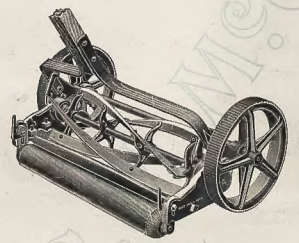
Special manganese steel reel knives, crucible steel cutter bar blade with a turned-up, hardened lip which makes it self-sharpening.

Patented ball-bearing adjustment and extra strong ratchet clutch, with full length pins. Hardened steel dustproof balls, cups and cones. A strictly high grade mower with all the improvements to make it perfect and easy running. It is handsomely painted in attractive colors.

11 Inch Drive Wheels, 5¾ Inch Five Blade Reel

Width of cut, inches.....	14	16	18	20
Weight, pounds.....	78	82	86	92
New Cranberry. Each..	**$27.00**	**28.00**	**29.00**	**30.50**

One in a box



CUMBERLAND

High Wheel, Ball Bearing

Special manganese steel reel knives, crucible steel cutter bar blade. Ball-bearing adjustment and strong ratchet clutch.

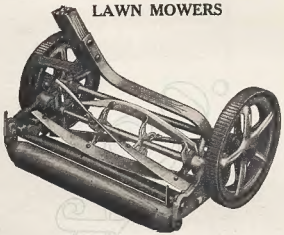
Hardened steel dustproof balls, cups and cones. Ball-bearing adjustment and strong ratchet clutch with full length pins. The cold rolled steel shaft makes for rigidity and durability. Painted attractively and decorated in gold.

9 Inch Drive Wheels, 5¾ Inch Four Blade Reel

Width of cut, inches.....	14	16	18
Weight, pounds.....	50	52	54
Cumberland. Each.....	**$18.50**	**19.00**	**19.70**

One in a box

LAWN MOWERS



CHEROKEE

High Wheel, Ball Bearing

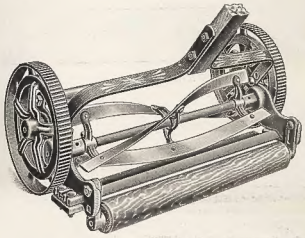
Special manganese steel reel knives, crucible steel cutter bar blade. Patented ball-bearing adjustment and extra strong ratchet clutch, with full length pins.

Hardened steel dustproof balls, cups and cones. Wheels are fitted with solid hubs and oil retaining chamber which permits the oil to circulate freely around the axles. Especially attractive in finish, being painted in green and fire copper bronze with aluminum striping.

10 Inch Drive Wheels, 5¾ Inch Four Blade Reel

Width of cut, inches.....	14	16	18
Weight, pounds.....	68	70	73
Cherokee. Each:.....	**$21.50**	**22.50**	**23.50**

One in a box



JACKSON

Parallel Adjustable Bearings

Selected knife steel reel knives and cutter bar blade, parallel adjustable bearings, direct drive gears, ratchets solid with pinion. Handsomely finished in aluminum and green, striped with aluminum.

8 Inch Drive Wheels, 4¾ Inch Three Blade Reel

Width of cut, inches.....	12	14	16
Weight, pounds.....	45	47	49
Jackson. Each.....	**$12.00**	**12.50**	**13.00**

One in a box

EVEREADY DAYLO LAMP ASSORTMENTS

An assortment of 100 lamps, all popular sellers and in big demand. Put up in a neat display box that attracts attention and will add to sales.

Assortment complete **$20.00**

Description of Assortment

Stock No.	Purpose of Lamp	Quantity
1	2 cell N. P. vest pocket midget, metal, fountain pen	20
2	3 cell N. P. vest pocket	10
3	2 cell baby tubular	10
17	3 cell tubular	20
16	2 cell tubular	30
31	Dry cell lantern	10

DIETZ LANTERNS

No. 2 LARGE FOUNT D-LITE

Cold Blast

Bright tin, patent reinforced tubes, patent globe lift on inside of frame, large oil filler, patent locking short globe, extra large, double seamed, solderless dome shaped oil fount, Dietz patent security standing bail, patent brass eyelets, exposed wick.

Burns 150° kerosene.

Volume of light 10 candle power.

No. 2 Large Fount D-Lite. Height over all 13¼ inches, fount capacity 40 hours, D-Lite Loc-Nob white globe, No. 272 Dietz patented safety wing lock, rising cone tinned steel burner, 1 inch wick, weight per half dozen 29 pounds.....per dozen, **$21.60**

One half dozen in a box

LITTLE WIZARD

Cold Blast

Bright tin, patent reinforced tubes, patent globe lift on inside of frame, large oil filler, patent locking short globe, double seamed solderless dome shaped oil fount, Dietz security standing bail, patent brass eyelets, exposed wick.

Burns 150° kerosene.

Volume of light 6 candle power.

Little Wizard. Height over all 11½ inches, fount capacity 18 hours, Little Wizard Loc-Nob white globe, No. 211 Dietz patented safety wing lock, rising cone tinned steel burner, ⅝ inch wick, weight per dozen 34 pounds.....per dozen, **$15.90**

One dozen in a box

DIETZ LANTERNS

MONARCH

Hot Blast

Bright tin, round tubes reinforced by patented horizontal and vertical beads, patented positive locking globe lift, large oil filler, double seamed solderless dome shaped oil fount, Dietz security standing bail, patent brass eyelets.

Burns 150° kerosene.

Volume of light 4 candle power.

No. 0 Monarch. Height over all 13¼ inches, fount capacity 18 hours, Dietz Fitzall white globe, No. 411 Dietz patented safety wing lock, cone tinned steel burner, ⅝ inch wick, weight per dozen 39 pounds, ...per dozen, **$12.70**

One dozen in a box

LITTLE STAR

Hot Blast

Bright tin, square tubes, patent positive locking globe lift, large oil filler, double seamed solderless dome shaped oil fount, Dietz security standing bail, patent brass eyelets.

Burns 150° kerosene.

Volume of light 3 candle power.

Little Star. Height over all 11 inches, fount capacity 12 hours, Little Star U. S. white globe, patented tinned steel burner, wing lock cone No. 411, ⅝ inch wick, weight per dozen 29 pounds.....per dozen, **$12.50**

One dozen in a box

ROADSTER WAGON

Cold Blast

Black enameled tin, patent reinforced tubes, patent globe lift on inside of frame, large oil filler, patent locking short globe, double seamed solderless dome shaped oil fount with safety oil well, Dietz security standing bail, patent brass eyelets. Made for use on left hand and has regulation 2¼ inch danger signal to rear.

Burns 150° kerosene.

Volume of light 10 candle power.

Roadster Wagon. Height over all 11½ inches, fount capacity 18 hours, Little Wizard globe, No. 211 Dietz patented safety wing lock, rising cone tinned steel burner, ⅝ inch wick, weight per dozen 52 pounds .....per dozen, **$24.90**

One dozen in a box

RAILROAD LANTERNS

VULCAN

For Kerosene

No. 39 Vulcan

Bright tin, strong wire frame, double guard, stamped fount and top.

The globe is removed through the frame by turning back the hinged top.

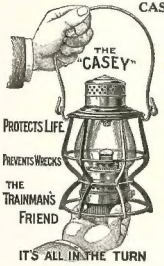
The wing lock burner is firmly attached to the fount by patent locking lugs. The fount fastens to the frame by a patented positive locking device, operated by a twist of the hand. Fount has a safety oil well.

For strength and long life, ease in cleaning, filling, lighting and regulating (outside wick raiser) and dependability in making signals they are unexcelled.

No. 39 Vulcan. Height over all 10 inches, fount capacity 24 hours, Vulcan No. 39 white globe, No. 1 wing lock convex burner, 1 inch wick, weight per dozen 49 pounds.....per dozen, **$25.15**

One dozen in a box

CASEY



Any signal can be given with it, without danger of extinguishing the light.

Light is always under control of operator without removing globe or oil cup.

When gloved or when numbed by cold, the complete hand can do easily with the Casey outside wick raiser what the finger and thumb find difficult in regulating the light in the old fashioned railroad lanterns. Weight per dozen about 50 pounds.

Casey R. R......per dozen, **$25.50**

One dozen in a box

ADLAKE

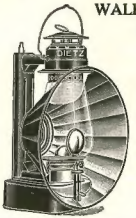
Wire guard, rigid bail lock, perfected ventilation, removable globe holder, encased oil pot, outside wick raiser, clear white globe, lard oil ratchet burner to take No. 1 5/8 inch wick or No. 2 1 inch wick as ordered.

No. 11. Adlake R. R. Per dozen.....**$30.00**

WALL LANTERNS

BEACON

Cold Blast



Finished in green enamel, large fluted reflectors, outside filler cap; the globe lifts clear of the burners to permit trimming and lighting. These are not intended for a portable lantern but are specially suitable for platforms, sheds, etc.

Burns 150° kerosene.

Volume of light 50 candle power.

No. 30. Height over all, 15¼ inches, count capacity 35 hours, Blizzard white bullseye globe, 1 inch wick, patented burner No. 262, weight per dozen 100 pounds .....per dozen, **$42.20**

One quarter dozen in a box

STREET AND PLATFORM LANTERNS

PIONEER

For Post or Bracket

Is made of heavy tin and gives a steady light double that of an ordinary gas street lamp at much less cost. May be filled, lighted and regulated without removing the globe. Has a self extinguishing device that may be set to burn for a certain number of hours.

Height over all 25½ inches, size of wick 1½ inches, fount capacity 24 hours; globe, Pioneer; burner, No. 313 patent tinned steel; size of socket opening 2¼ inches.

Burns 150° kerosene.

Volume of light 22 candle power.

No. 3 Pioneer Street and Platform Lanterns. Painted green, weight 27 pounds.....each, **$8.30**

One in a case

PIONEER

Hanging

Is made of heavy tin and has a stamped base and a substantial bail. May be filled, lighted and regulated without removing the globe and is self extinguishing.

Height over all 21½ inches, size of wick 1½ inches, fount capacity 24 hours; globe, Pioneer; burner, No. 313 patent tinned steel.

Burns 150° kerosene.

Volume of light 22 candle power.

No. 1 Pioneer Hanging Lanterns. Painted green, weight 24 pounds.....each, **$9.00**

One in a case

1847 ROGERS BROS. SILVER PLATED WARE

HERALDIC PATTERN

French Gray Finish. Handles with Hand Hammered Effect

TEA, TABLE AND DESSERT SPOONS

Heraldic tea spoons. XS triple plate, one dozen in a box.....per dozen, **$11.00**

Heraldic dessert spoons. XS triple plate, one dozen in a box.....per dozen, **19.50**

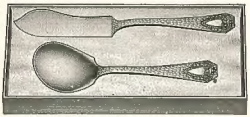
Heraldic table spoons. XS triple plate, one dozen in a box.....per dozen, **22.00**

HOLLOW HANDLE KNIVES

Heraldic medium hollow handle knives. XS triple plate, one half dozen in a roll.....per dozen, **$36.50**

FLAT HANDLE FORKS

Heraldic medium flat handle forks. XS triple plate, one half dozen in an unlined box.....per dozen, **$22.00**



BUTTER KNIFE AND SUGAR SHELL SETS

No. 604-81. Heraldic set, consists of 1 each butter knife and sugar shell in plain box.....per set, **$4.50**

BUTTER KNIVES

No. 609-81. Heraldic butter knives with bent handles in plain box.....each, **$2.10**

SUGAR SHELLS

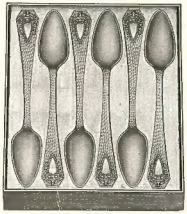
No. 608-81. Heraldic sugar shells with flat handles in plain box.....each, **$1.75**

BUTTER SPREADERS

No. 652-81. Heraldic butter spreader set, consisting of 6 flat handle spreaders in plain box.....per set, **$15.50**

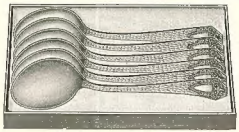
BOUILLON SPOONS

No. 720-81. Heraldic set, consists of 6 flat handle bouillon spoons in plain box.....per set, **$9.25**



ORANGE OR GRAPEFRUIT SPOONS

No. 647-81. Heraldic set, consists of 6 flat handle orange or grapefruit spoons in plain box.....per set, **$7.00**



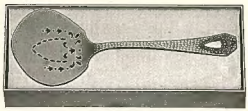
SOUP SPOONS

No. 713-81. Heraldic set, consists of 6 flat handle soup spoons in plain box.....per set, **$11.00**

1847 ROGERS BROS. SILVER PLATED WARE

HERALDIC PATTERN

French Gray Finish. Handles with Hand Hammered Effect.

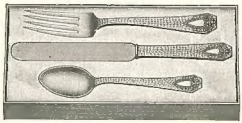


CUCUMBER OR TOMATO SERVER

No. 714-81. Heraldic tomato server in plain box..each, **$5.00**

SUGAR TONGS

No. 705-81. Heraldic sugar tongs in plain box....each, **$2.88**



CHILD'S SET

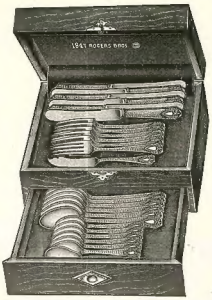
No. 116-81. Heraldic child's set, consists of 1 each knife, fork and spoon, in plain box.....per set, **$4.50**

BABY SPOONS

No. 725-81. Heraldic baby spoons with bent handles, in plain box.....each, **$1.50**

FOOD PUSHERS

No. 726-81. Heraldic food pushers in plain box....each, **$1.50**



CHESTS WITH WARE

26 piece genuine mahogany chest with ware

Heraldic Pattern

Consists of 6 each medium knives with hollow handles, medium forks, tablespoons, teaspoons and 1 each butter knife and sugar shell.

No. 540C. Heraldic Pattern chest, complete with ware .....each, **$62.50**

HOME MAKERS CHESTS WITH WARE

26 piece leatherette case with ware

Heraldic Pattern

Consists of 6 each hollow handle medium knives, flat handle medium forks, dessert spoons, tea spoons and 1 each butter knife and sugar shell.

No. 3069-5. Home makers chests with ware.....each, **$52.50**

NOTE—Other patterns of Rogers 1847 silver plated ware can be furnished promptly by shipment from factory.

1847 ROGERS BROS. SILVER PLATED WARE

HERALDIC PATTERN

French Gray Finish. Handles with Hand Hammered Effect

ICED TEA SPOONS

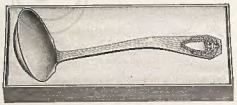
No. 799-81. **Heraldic** set, consists of 6 flat handle iced tea spoons in plain box.....per set, **$8.00**

BERRY SPOONS

No. 615-81. **Heraldic** berry spoons in plain box....each, **$4.50**

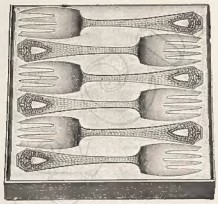
CREAM LADLES

No. 610-81. **Heraldic** cream ladles in plain box....each, **$2.67**



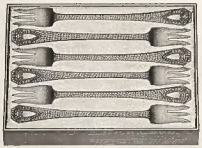
GRAVY LADLES

No. 611-81. **Heraldic** gravy ladles in plain box....each, **$3.50**



SALAD FORKS

No. 717-81. **Heraldic** set, consists of 6 flat handled individual salad forks in plain box.....per set, **$31.00**



OYSTER FORKS

No. 622-81. **Heraldic** set, consists of 6 flat handled oyster forks in plain box.....per set, **$7.25**

COLD MEAT FORKS

No. 662-81. **Heraldic** cold meat forks with flat handles, in plain box.....each, **$2.83**

PICKLE FORKS

No. 681-81. **Heraldic** pickle or olive forks with flat handles, in plain box.....each, **$2.50**

AC Two-Piece

Price, $1.25

78 ACTP

⅞" Reg. AC Two-Piece

Regular equipment on Boring, Lauson, Stockton, Tioga, Turner-Simplicity, and Wetmore Tractors; Hewitt-Ludlow, Low-Bed and Italia Trucks.

78 LACTP

⅞" Long AC Two-Piece

For motors requiring a ⅞" plug with an extension.

No. 18 ACA

AC AVIATION

Metric size only.

Reg. equipment on Curtiss and Hall-Scott airplanes. Used on Liberty and Hispano-Suiza Motors.

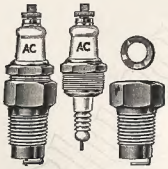
Price $1,50

AC

Spark Plugs

The Standard Quality Plugs of the World

AC TWO-PIECE FOR FORD



Special Features In Our New AC Two-Piece Carbon Proof Plug For Ford Motors

SHELL—¼" extension brings the electrodes to their proper location. The average plug does not screw down far enough in a Ford motor, causing sooting and a poorly running motor.

INSULATION—Note saw tooth edges on the porcelain insulator; they become hot enough to quickly burn away carbon deposits, thereby keeping the sharp edges free from carbon or oil and breaking up short circuits.

BUSHING—The porcelain and bushing assembly combines the advantages of the Titan Carbon Proof one-piece design with ready demountability. It can be taken apart and re-assembled any number of times without risk of breaking the insulator or spoiling the packing, as no pressure is applied to the porcelain when tightening.

No. ACP

AC TWO-PIECE

PORCELAIN

Extra porcelain with bushing. Price 75 cents

AC Two-Piece

Price, $1.25

12 ACTP

¾" Reg. AC Two-Piece

Regular equipment on La-Crosse, Pioneer and Minneapolis Tractors; Mudge and Woolery Railway Motors.

12 LACTP

½" Long AC Two-Piece

For motors requiring ½" plug with an extension.

No. 78 RATT

⅞" Reg. Aircraft Type AC Titan

Especially designed for high speed, high compression motors and for air cooled motors. Reg. equipment on Rutenber motors.

THE PROPER AC SPARK PLUG TO USE

PASSENGER CARS

Name of Car	Size of Plug
ABBOTT-DETROIT	½ Reg. AC Than
ACE	½ Reg. AC Than
ALLEN	½ Reg. AC Than
ALBACE	½ Reg. AC Than
AMERICAN-BEAUTY	½ Reg. AC Than
ANDERSON	½ Reg. AC Than
APPERSON SIX	.SAE Reg. AC Than
APPERSON EIGHT	.SAE Reg. AC Than
ARGONNE FOUR	½ Reg. AC Than
AUBURN	½ Reg. AC Than
AUTOCAR	½ Reg. AC Than
BELL	½ Reg. AC Than
BELLANGER-FRERES (F.)	.Reg. Met. AC Than
BIDDLE	½ Reg. AC Than
BIRCH	½ Reg. AC Than
BOUR-DAVIS	½ Reg. AC Than
BRADLEY	½ Reg. AC Than
BRISCOE	½ Reg. AC Than
BUICK	½ Reg. AC Than
BUICK, MODEL 30	½ Reg. AC Than
CADILLAC	½ Reg. AC Than
CASE SIX	½ Reg. AC Than
J. I. CASE T. M. Co.	½ Reg. AC Than
CHALMERS	½ Reg. AC Than
CHANDLER	½ Long Body AC Than
CHEVROLET	½ Long AC Than
CLEVELAND	½ Reg. AC Than
COLE	½ Reg. AC Than
COLUMBIA	½ Reg. AC Than
COMET	½ Reg. AC Than
COMMONWEALTH	.SAE Reg. AC Than
CRANE-SIMPLEX	½ Long Reg. AC Than
CRAWFORD	½ Reg. AC Than
CROW-ELKHART	½ Reg. AC Than
CUNNINGHAM	½ Reg. AC Than
DAIMLER	.SAE Reg. AC Than
DAVIS	½ Reg. AC Than
DERBROW	.SAE Reg. AC Than

Name of Car	Size of Plug
DELSE	½ Reg. AC Than
DODGE	.Dodge Special AC Than
DORRIS	½ Reg. AC Than
DORT	½ Reg. AC Than
DREXEL	½ Reg. AC Than
DUNKMOBILE	½ Reg. AC Than
ELCAR	½ Reg. AC Than
ELGIN	½ Reg. AC Than
ELMIRA	½ Reg. AC Than Carbon Proof
EMPIRE	½ Reg. AC Than
ESSEX	.Reg. AC Than
FAGEOL	½ Reg. AC Than
FIAT	½ Reg. AC Than
FRANKLIN	.SAE Reg. AC Than
FRONTENAC	½ Reg. AC Than
GARDNER	½ Reg. AC Than
GRANT	½ Reg. AC Than
GRAY-DORT	½ Reg. AC Than
HAL	½ Reg. AC Than
HAMILTON SIX	½ Type B. AC Than
HARROUN	½ Reg. AC Than
HATFIELD	½ Reg. AC Than
HAYNES	.SAE Reg. AC Than
HOLLIER	½ Reg. AC Than
HUDSON	½ Reg. AC Than
HUPMOBILE	½ Reg. AC Than
INTERSTATE	½ Reg. AC Than
JACKSON	½ Reg. AC Than
JEFFERY	½ Reg. AC Than
JORDAN	½ Reg. AC Than
KENWORTHY	½ Reg. AC Than
KING	½ Reg. AC Than
KISSEL-CAR	½ Reg. AC Than
LANDAU	½ Reg. AC Than
LA FAYETTE	½ Reg. AC Than
LEACH-POWER Plus Six	½ Reg. AC Than
LENOX	½ Reg. AC Than
LEXINGTON	½ Reg. AC Than
LIBERTY	½ Reg. AC Than
LOCOMOBILE	.SAE Reg. AC Than

Name of Car	Size of Plug
LOZIER	.SAE Reg. AC Than
LORRAINE	½ Reg. AC Than
MARION-HORNET	½ Reg. AC Than
MARMON-WASHEY	½ Reg. AC Than
MARMON	.SAE Reg. AC Than
MARQUETTE	½ Reg. AC Than
McLAUGHLIN-BUICK (Can.)	
Models 40-85	.SAE Long AC Than
Model 86 and others	½ Reg. AC Than
MERCER	½ Reg. AC Than
MERCES	½ Reg. AC Than
METZGR	½ Reg. AC Than
METZ	.Extra Long ½" AC Than
MITCHELL	.SAE Reg. AC Than
MOLINE-KNIGHT	½ Reg. AC Than
MOLLER	½ Reg. AC Than
MONARCH	½ Long Body AC Than
NAGEL	½ Reg. AC Than
NASH 1918	.SAE Reg. AC Than
NASH 1919	.SAE Long AC Than
NASH 1920	.Extra Long SAE AC Than
NATIONAL	½ Reg. AC Than
NOMA	½ Reg. AC Than
OAKLAND 1915-1920	.SAE Long AC Than
OAKLAND, All other Mod.	½ Reg. AC Than
OLDSMOBILE, 8 Cylinder	½ Reg. AC Than
OLDSMOBILE, 6 Cylinder	.SAE Reg. AC Than
OVERLAND	½ Reg. AC Than Carbon Proof
OWEN-MAGNETIC	½ Reg. AC Than
PACKARD	½ Reg. AC Than
PAIGE-DETROIT	½ Reg. AC Than
PAN-AMERICAN	½ Reg. AC Than
PARENT	½ Reg. AC Than
PATERSON	½ Reg. AC Than
PEERLESS	½ Reg. AC Than
PHELPS	½ Reg. AC Than
PHIANNA	½ Reg. AC Than
PIEDMONT	½ Reg. AC Than
PIERCE-ARROW	½ Reg. AC Than

Name of Car	Size of Plug
PILOT	½ Reg. AC Than
PORTER	.SALT Metric
POWERS	½ Reg. AC Than
PRIMEAN	.SAE Reg. AC Than
REGAL	½ Reg. AC Than CP
REO	½ Reg. AC Than
RE VERE	½ Reg. AC Than
ROA-REX	½ Reg. AC Than
ROCK FALLS	½ Reg. AC Than
ROLLS-KNIGHT	½ Reg. AC Than
SAXON	½ Reg. AC Than
SCRIPPS-BOOTH Four	½ Reg. AC Than
SCRIPPS-BOOTH Six	½ Reg. AC Than
SCRIPPS-BOOTH Eight	.Long Metric AC Than
SENECA	½ Reg. AC Than
SHAW 1E (all models)	.Reg. ½ Than
SINGER	.SAE Reg. AC Than
S. S. E. Co.	½ Reg. AC Than
STANDARD	½ Reg. AC Than
STANDARD EIGHT	.SAE Reg. AC Than
STEARNS-KNIGHT	.SAE Reg. AC Than
STERLING	½ Reg. AC Than
STEPHENS SALIENT SIX	½ Reg. AC Than
STEPHENS-DURYEA	½ Long Body AC Than
STEWART	½ Reg. AC Than
STUDEBAKER up to 1918	½ Reg. AC Than Carbon Proof
STUDEBAKER 1919	.SAE Reg. AC Than
STUTZ	½ Reg. AC Than
TEMPLAR	½ Reg. AC Than
TEXAN	½ Reg. AC Than
TIFFT	½ Reg. AC Than
VOGUE	½ Reg. AC Than
WESTCOTT	½ Reg. AC Than
WHITE	½ Long Body AC Than
WILLYS-KNIGHT	½ Reg. AC Than
WINTON	½ Long AC Than

COMMERCIAL CARS

Name of Car	Size of Plug
ACASON	½ Reg. AC Than
ACE	½ Reg. AC Than
ACME	½ Reg. AC Than
AMERICAN Four Pass.	½ Reg. AC Than
AMERICAN LaFRANCE	½ Reg. AC Than
APEX	½ Reg. AC Than
ARMLEDER	½ Reg. AC Than
ATCO	½ Reg. AC Than
ATLANTIC	½ Reg. AC Than
AUTOCAR	½ Reg. AC Than
AVAILABLE	½ Reg. AC Than
AVERY	½ Reg. AC Than
BECK-HAWKEYE	½ Reg. AC Than
BESSEMER	½Long Reg. AC Than
BETHLEHEM	½ Reg. AC Than
BIG	½ Reg. AC Than
BOLLSTROM	½ Reg. AC Than
BRIDGEPORT	½ Reg. AC Than
BRINTON	½ Reg. AC Than
BROCKWAY	½ Reg. AC Than
BUFFALO	½ Reg. AC Than
CHEVROLET	½ Long AC Than
CLEVELAND	½ Reg. AC Than
COMMONWEALTH	½ Reg. AC Than
COLLIER	½ Reg. AC Than
COLT	½ Reg. AC Than
COMMERCE	½ Reg. AC Than
CONESTOGA	½ Reg. AC Than
DART	½ Reg. AC Than
DENNETT	.Reg. AC Than
DENEY	½ Reg. AC Than
DEPENDABLE	½ Reg. AC Than
DIAMOND T	½ Reg. AC Than
DIEHL	½ Reg. AC Than
DODGE	.Dodge Special AC Than
DORRIS	½ Reg. AC Than
DUPLEX	½ Reg. AC T. P.
DUVY	.SAE Reg. AC Than
ELMIRA	½ Reg. AC Than Carbon Proof
FAGEOL	½ Reg. AC Than
FAMOUS	½ Reg. AC T. P.
FARGO	½ Reg. AC T. P.

Name of Car	Size of Plug
FEDERAL	½ Reg. AC T. P.
FORD	½ Reg. AC T. P.
FRC	½ Reg. AC Than
FRONTMOBILE	½ Reg. AC Than
FULTON	½ Reg. AC Than
GARFORD	½ Reg. AC Than
G. M. C.	½ Reg. AC Than
GUIFORD	½ Reg. AC Than
GARY	½ Reg. AC Than
GRABOWSKY	½ Reg. AC Than
GRADY-WHITE	½ Reg. AC Than
GRAHM-BERNSTEIN	½ Reg. AC Than
G. M. C.	½ Reg. AC Than
HACKETT	½ Reg. AC Than
HAL	½ Reg. AC Than
HARVEY	½ Reg. AC Than
HEWITT	½ Reg. AC Than
HENDRICSON	½ Reg. AC Than
HICHWAY-KNIGHT	½ Reg. AC Than
HOOVER	½ Reg. AC Than
HUG	½ Reg. AC Than
HUBLEDUT	½ Reg. AC Than
HURON	½ Reg. AC Than
INTERNATIONAL	½ Reg. AC Than
INTERNATIONAL, Commercial Passenger Car	½ Reg. AC Than C. P.
INDEPENDENT	½ Reg. AC Than
J. I. C.	½ Reg. AC Two-Piece
J. I.	½ Reg. AC Two-Piece
J. T.	½ Reg. AC Two-Piece
JUMBO	½ Reg. AC Than
KARAVAN	½ Reg. AC Than
KALAMAZOO	½ Reg. AC Than
KALAMAZOO	½ Reg. AC Than
KENTUCKY	½ Reg. AC Than
KISSEL-KAR	½ Reg. AC Than
KLEISER	½ Reg. AC Than
KLEMM	½ Reg. AC Than
KOEHLER	½ Reg. AC Than
KR	½ Reg. AC Than
LIPPARD-STEWART	½ Reg. AC Than

Name of Car	Size of Plug
LOZIER	.SAE Reg. AC Than
LORRAINE	½ Reg. AC Than
MACCAR	½ Reg. AC Than
MACK	½ Reg. AC Than
MARTER	½ Reg. AC Than
MARMON Fire Tha	.Extra Long SAE AC Than
MAXWELL	½ Reg. AC Than
MEDOMINEZ	½ Reg. AC Than
MIDLAND	½ Reg. AC Than
MONARCH	½ Long Body AC Than
MORRISON	½ Reg. AC Than
MUTUAL	½ Reg. AC Than
NAPOLEON	½ Reg. AC Than
NASH	½ Reg. AC Than
NELSON & LE MOON	½ Reg. AC Than
NETCO	½ Reg. AC Than
NOMEL	½ Reg. AC Than
OGDEN	½ Reg. AC Than
O. K. HICKORY	½ Reg. AC Than
OLD	½ Reg. AC Than
OLD RELIABLE	½ Reg. AC Than
OLDMOBILE	½ Reg. AC Than
OWSDA	½ Reg. AC Than Carbon Proof
OSHKOSH	½ Reg. AC Than
OVERLAND	½ Reg. AC Than Carbon Proof
PACKARD	½ Reg. AC Than
PAIGE	½ Reg. AC Than
PARENT	½ Reg. AC Than
PATSON	½ Reg. AC Than
PEERLESS	½ Reg. AC Than
PIERCE ARROW Mod. 33	.Reg. AC Than
All other models	½ Reg. AC Than
PIONEER	½ Reg. AC Than
PITTSBURGH TRUCKS	½ Type B AC Than
POWER	½ Reg. AC Than
RANGER	½ Reg. AC Than
REPUBLIC	½ Reg. AC Than
REPUBLIC	½ Reg. AC Than
REYNOLDS	½ Reg. AC Than
ROAD	.SAE Reg. AC Than
ROBINSON Five Trucks	½ Long Body AC Than

Name of Car	Size of Plug
ROWE	½ Reg. AC Than
SANDOW	½ Reg. AC Than
SANFORD	½ Reg. AC Than
SCHWARTZ	½ Long Body AC Than
SEAGRAVE	½ Reg. AC Than
SEDGWICK	½ Reg. AC Than
SERVICE	½ Reg. AC Than
SIMPLEX	½ Reg. AC Than
STANDARD	½ Reg. AC Than
STEWARD	½ Reg. AC Than
ST. CLOUD	½ Reg. AC Than
STERLING	½ Reg. AC Than
STEWART	½ Reg. AC Than
STOUGHTON	½ Reg. AC Than
STUDEBAKER up to 1920	½ Reg. AC Than
STUDEBAKER 1920	.SAE Reg. AC Than
SUPERIOR	½ Reg. AC Than
SUPERIOR	½ Reg. AC T. P.
TIFFIN	½ Reg. AC Than
TITAN	½ Long Body AC Than
TOWNE	½ Reg. AC Than
TRAFFIC	½ Reg. AC Than
TROY	½ Reg. AC Than
UNITED STATES	½ Reg. AC Than
UNITED	½ Reg. AC Than
UNIVERSAL	½ Reg. AC Than
URBUS	½ Reg. AC Two-Piece
VELIE	½ Reg. AC Than
VIM	½ Reg. AC Than
WALTER	½ Reg. AC Than
WALLA LA FRANCE	½ Reg. AC Than
WARREN	½ Reg. AC Than
WHITE	½ Long Body AC Than
WHITE-NICKORT	½ Reg. AC Than
WICHITA	½ Reg. AC Than
WILCOX TRUK	.SAE Reg. AC Than
WILSON	½ Reg. AC Than
WINTHER	½ Reg. AC Than
WOLVERINE	½ Long Body AC Than

TRACTORS

Name of Tractor	Size of Plug
ADVANCE-RUBLEY	½ Reg. AC Than
ALLIS-CHALMERS	½ Reg. AC T. P.
ALLWORK	½ Reg. AC Than
AMERICAN	½ Long AC Than
AUTOCAR	½ Reg. AC Than
AUTOMOTIVE	½ Reg. AC T. P.
A & T, Model 15 & 20	½ Reg. AC T. P.
A & T, all other Models	.Reg. Met. AC Than
AVERY, Models 8, 16, 12, 20, 18, 25, 40, 45, 75	.Reg. AC Than CP
AVERY Models 5-10	½ Reg. AC T. P.
BATES STEEL MULE	.Reg. Met. AC Than
BEEMAN GARDEN	½ Reg. AC Than
BOSSING	½ Reg. AC T. P.
BULLOCK CREEPING	.Reg. AC Than CP
BUFFALO	½ Reg. AC Than
BUFFALO	½ Reg. AC Than
J. I. CASE T. M. CO.	½ Reg. AC Than
CLARK	½ Reg. AC Than
CLETRAC	½ Reg. AC Than
CLEVELAND	½ Reg. AC T. P.
COMET	½ Reg. AC T. P.
DART, A Model 1919	½ Reg. AC T. P.
DART	½ Reg. AC T. P.
DEERE	½ Reg. AC Than
DEPENDABLE	½ Reg. AC Than

Name of Tractor	Size of Plug
DO IT ALL	.Extra Long SAE AC Than
EAGLE	½ Reg. AC Than CP
FARMER	½ Long AC Than
FORDSON	½ Reg. AC T. P.
FRANKLIN	.SAE Long AC Than
GRADE BUILT	½ Reg. AC T. P.
GRAY	½ Reg. AC T. P.
GRAY-DORT	½ Reg. AC T. P.
HEIDER	½ Reg. AC T. P.
HOLT CATERPILLAR	
Model 75 & 120	½ Reg. AC Than CP
Model 45	½ Reg. AC Than
HOWELL up to 1918	½ Reg. AC T. P.
HOWELL 1918	½ Reg. AC Than T. P.
HUBER "Light Four"	½ Reg. AC T. P.
HUBER 35-70	½ Reg. AC T. P.
HUDSON	½ Reg. AC T. P.
IMPERIAL FORTY	½ Reg. AC T. P.
INTERNATIONAL	½ Long AC T. P.
J. I. C.	½ Reg. AC T. P.
KARDELL UTILITY	½ Reg. AC T. P.
KEYSTONE	½ Reg. AC T. P.
KNOX	½ Long AC Than
LA CROSSE	½ Reg. AC T. P.
LAWSON	½ Reg. AC T. P.
LEADER, Model B-15-18	½ Reg. AC T. P.

Name of Tractor	Size of Plug
LEADER Model C-15-30	½ Reg. AC T. P.
LEONARD	½ Reg. AC T. P.
LIBERTY	½ Reg. AC T. P.
LITTLE	½ Reg. AC T. P.
LITTLE GIANT	½ Long AC T. P.
LIVINGSTON-UNIVERSAL	½ Reg. AC T. P.
LIVINGSTON-PULLMOTOR	½ Reg. AC T. P.
MINNEAPOLIS	½ Reg. AC T. P.
MONARCH	½ Reg. AC T. P.
NATIONAL	½ Reg. AC T. P.
NELSON	½ Reg. AC T. P.
NEW BRITAIN	½ Reg. AC Than T. P.
NEW IDEA	½ Reg. AC T. P.
OLDMAN GARDEN	½ Reg. AC Than T. P.
PARRETT	½ Reg. AC T. P.
PEORIA	½ Reg. AC T. P.
PIONEER	½ Reg. AC T. P.
PORT HURON	½ Reg. AC T. P.
PORT HURON	½ Reg. AC T. P.
RAM	½ Reg. AC T. P.
RUSSEL MODELS	½ Reg. AC T. P.
Russell 10-20	½ Long AC Than
RUSSEL Model 40-60	½ Reg. AC Than
SANDOW	½ Reg. AC T. P.
SIMPLEX	½ Reg. AC T. P.
SAWYER-MASSEY (Can.)	.SAE L. AC Than

MISCELLANEOUS

Name	Size of Plug
Excelsior Motorcycles	.Reg. Met. AC Than
Fairbanks Lighting Plants	½ Reg. AC Than
Harley-Davidson	.Reg. Met. AC Than
Henderson Motorcycles	.Reg. Met. AC Than
Ingersoll-Rand A. C.	½ Reg. AC Than CP
Jahnson Motor Wheel	½ Reg. AC Than
Kookering Boat Power	½ Reg. SAE AC Than
Lahby Lighting Plants	½ Reg. AC Than
Lincoln Lighting Plants	.Reg. AC Than

Name	Size of Plug
Maytag Wash. Machines	½ Reg. AC Than CP
Meyerle Lighting Plants	½ Reg. AC Than
Milwaukee Gas. Loco.	½ Reg. AC Than CP
Modge Railway Cars	½ Reg. AC Than CP
Nan-Ki-Vel Lighting Plants	½ Reg. AC Than
Onan Lighting Plants	½ Reg. AC Than
Owen-Delco Power Plants	½ L. AC Than
Pennsylvania Lighting Plants	½ Reg. AC Than
Perfect Power Sprayers	½ Reg. AC Than

Name	Size of Plug
Powerite Lighting Plants	½ Reg. AC Than
P. & H. Excavators	½ & ¾ Reg. AC Than
Race Lighting Plants	½ Reg. AC Than
Sandow Lighting Plants	½ Reg. AC Than
Saltrest Pool, All Cars	½ Reg. AC Than
United Lighting Plants	½ Reg. AC Than
Vaughan Dry Dock	½ Reg. AC Than
Wade Drag Saws	½ Reg. AC Than CP
Wonn Lighting Plants	½ Reg. AC Than

AC TITAN

$1.00 EACH

No. 78 LT

⅞" LONG AC Titan

Regular equipment on Buick, Chevrolet, 1920 Kissel-Kar, (McLaughlin-Buick, Canada), Scripps-Booth, 4 cylinder, Sheridan, Howell Tractors, Knox Tractors, Samson Tractors, Olds Trucks and Midwest Engines.

No. 78 RT

⅞" Reg. AC Titan

Regular equipment on Cadillac, Cleveland, Cole, Dort, Hudson, Hupmobile, Jordan, LaFayette, Kissel-Kar up to 1920, Liberty, Oldsmobile 8 cylinder, Packard, Paige-Detroit, Pierce-Arrow, ReVere, Roamer and 160 others.

No. SAET

SAE Reg. AC Titan

Regular equipment on Apperson, Commonwealth, Daniels, Haynes, Marmon, Mitchell, Saxon, Singer, Stearns-Knight, Riker Trucks and Delco Light Plants. **No. SAEST** or Locomobile Special Titan (slightly shorter than SAE) Locomobile equipment 1920.

No. 12 LT

Long ⅛" AC Titan

Regular equipment on Reo cars and trucks and Speedway motors.

78 DT

Dodge Special AC Titan

Slightly longer than ⅞" regular. Made especially for Dodge Brothers.

Spark Plugs

The Standard Quality Plugs of the World

CARBON PROOF TYPE FOR FORD

NO. 12 CPT

⅛" REG. AC TITAN CARBON PROOF

This plug is especially designed for use on Ford cars and is remarkably efficient under all conditions. The special ribbed porcelain with saw-tooth edges reduces carbon troubles to a minimum. The reason being that the saw tooth edges of the carbon proof porcelain become so hot as to burn away the carbon as fast as it forms, thereby keeping the porcelain clean and breaking up short circuits.

SPECIAL TERMINALS FURNISHED GRATIS

AC TITAN

$1.00 EACH

No. 78 LBT

⅞" Long Body AC Titan

Regular equipment on Chandler, Phianna, Stevens-Duryea, White Trucks, Bessemer Trucks, Hahn Trucks, Moreland Trucks, Patriot Trucks, Robinson Fire Trucks, Schwartz Trucks, Titan Trucks, Owens Light and Power Plants and Northlite Lighting Plants.

No. SAELT

SAE Long AC Titan

Regular equipment on Monroe, Oakland, Oldsmobile 6, Premier, Scripps-Booth 6, Nash to 1920.

No. SAENT or extra long SAE used on 1920 Nash.

12 CPT

⅛" Reg. AC Titan Carbon Proof

Regular equipment on Moller passenger cars, A & T, Buffalo, New Britain and Oldsmar Gardena Tractors, Elmira Trucks, Schwartz Lighting Plants.

Recommended for Overland and Studebaker or any motors using ⅛ in. regular plugs.

18 SMT

Short Metric AC Titan

Reg. equipment on Henderson Motorcycles. Recommended for Packard to 1914, Peerless to 1915.

No. 18 MT

Reg. Metric AC Titan

Regular equipment on Essex, Excelsior Motorcycles, Briggs & Stratton Motor Wheel, Johnson Motor Wheel.

No. 18 LMT or Long Metric, regular equipment on Scripps-Booth 8.

BOYCE MOTOMETERS

Standard Model

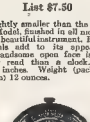
List $10.00

A perfect heat recording instrument of the highest type, with extremely broad ribbon bore thermometer tube. Because of its perfection of workmanship, the Standard Model has been selected as regular equipment on America's leading cars. Size, 3½ x 5½ inches. Weight (packed in carton) 16 ounces.

Universal Model

List $7.50

Slightly smaller than the Standard Model, finished in all nickel. A very beautiful instrument. Beveled crystals add to its appearance. Its handsome open face is more easily read than a clock. Size, 3 x 5 inches. Weight (packed in carton) 12 ounces.



Overland Model

Designed especially for Overland, cars having an Overland radiator cap, such as on the Overland "4."

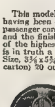
Standard . . .	$10.00
Universal	7.50
Junior	5.00
Midget	2.50

NOTE—When ordering specify "Overland Model."

De Luxe Model

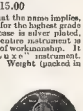
List $15.00

This model is all that the name implies, having been designed for the highest grade passenger cars. The case is silver plated, and the finish of the entire instrument is of the highest quality of workmanship. It is in truth a "De Luxe" instrument. Size, 2¾ x 5¾ inches. Weight (packed in carton) 20 ounces.



Midget

List $2.50



Special Model for the Ford

List $3.50

Midget Model

A genuine Boyce Moto-Meter especially designed to meet the demand of the small or light car owner. It combines accuracy with sturdiness of construction. Size, 2¾ x 3¾ inches. Weight (packed in carton) 5 oz.

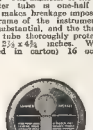
Special Model for the Ford

The beauty of this instrument on the radiator cap of a Ford, together with its utility, is an investment that every Ford owner should make. Complete with handsome radiator cap. Size, 2¾ x 3¾ inches. Weight (packed in carton) 7 ounces.

Truck and Tractor Model

List $10.00

This model has been designed especially for severe conditions so often met with in truck and tractor service. The casing is nickel plated. The diameter of the thermometer tube is one-half inch which makes breakage impossible. The frame of the instrument is very substantial, and the thermometer tube thoroughly protected. Size, 2¾ x 4¾ inches. Weight (packed in carton) 16 ounces.



Junior Model

List $5.00

This model appeals strongly to owners of cars of medium size. The frame of the instrument is heavily nickel plated, and it has the same range of temperature as the Standard and Universal Models. Size, 2 x 4½ inches. Weight (packed in carton) 8 ounces.

Distance Type Model "A"

List $18.00

Especially designed for installation where the radiator type instrument cannot be installed on a line with the operator's vision, as on scrapliners, motor boats, stationary engines, tractors, automobiles, and for laboratory testing purposes. Finished with black enamel case (3 and ½ inches in diameter), nickel plated rings, beveled crystal, and red and white pointer. The temperature ranges from 32° to 212° F. Complete with 5 feet of tubing, and hose couplings.

To install it is only necessary to cut away one inch section of the hose leading to the upper part of the motor from the radiator.

In ordering be sure to state the exact size of the inside hose dimensions.

For other models of Distance Type instruments with longer tubing lengths, greater temperature ranges, special fittings, etc., write for special literature.

POCKET KNIVES
HAMMER BRAND

Two blades, spear point, glazed and etched, nickel silver tips, brass lined, stag handle with shield, weight per dozen 1¼ pounds.

No. 261. 3¼ inches ..... per dozen, **$26.40**

One half dozen in a box

Two blades, congress pattern, glazed and etched, nickel silver bolsters, brass lined, pearl handle, weight per dozen 1 pound

No. 2292. 3 inches..... per dozen, **$33.60**

One half dozen in a box

Two blades, spear point, glazed, brass lined, stag handle with shield, weight per dozen 1⅛ pounds.

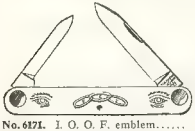
No. 6187. 3¼ inches..... per dozen, **$22.80**

One half dozen in a box

Two blades, spear point, polished and etched, nickel silver bolsters, brass lined, pearl handle, weight per dozen 1⅛ pounds.

No. 2353. 3¼ inches..... per dozen, **$42.00**

One half dozen in a box



Emblems

Two blades, spear point, glazed, large nickel silver rivets, brass lined, silver shell handle, 3½ inches, weight per dozen ⅞ pound.

No. 6171. I. O. O. F. emblem..... .....per dozen **$25.20**
No. 6171. B. P. O. E emblem. .... .per dozen, **25.20**
No. 6171. K. of P. emblem.. ... . .per dozen, **25.20**
No. 6171. Masonic emblem . . . . . per dozen, **25.20**
No. 6171. Shriner emblem . . . . . per dozen, **25.20**
No. 6171. W. O. W. emblem . . . . . per dozen, **25.20**

One half dozen in a box

Emblems

One large spear point blade and nail file, blade polished, nickel silver tips and lining, pearl handle, 3 inches, weight per dozen ⅞ pound.

No. 2270. I. O. O. F. emblem . . .per dozen, **$60.00**
No. 2270. B. P. O E emblem . . per dozen, **60.00**
No. 2270. K. of P. emblem . . . .per dozen, **60.00**
No. 2270. Masonic emblem .. . . .per dozen, **60.00**
No. 2270. Shriner emblem . .. .per dozen, **60.00**
No. 2270. W. O. W. emblem. .. ..per dozen, **60.00**

One half dozen in a box

POCKET KNIVES
HAMMER BRAND

Two blades, congress pattern, and nail file, glazed and etched, steel bolsters, brass lined, stag handle with shield, weight per dozen ⅞ pound.

No. 3300. 3 inches.....per dozen, **$26.40**

One half dozen in a box

Two blades, spear point and nail file, polished, nickel silver lined, pearl handle, with ring, weight per dozen ¾ pound.

No. 3025R. 3 inches . . . . ..per dozen, **$64.00**

One half dozen in a box

Congress

Two blades, congress pattern, glazed and etched, steel bolsters, brass lined, stag handle with shield, weight per dozen 1½ pounds.

No. 6100. 3½ inches.....per dozen, **$18.00**

One half dozen in a box

Two blades, spear point, glazed and etched, nickel silver bolsters, brass lined, stag handle with shield, weight per dozen 1¼ pounds.

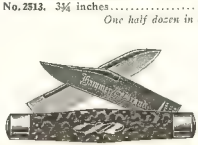
No. 2022. 3¼ inches.....per dozen, **$22.40**

One half dozen in a box

Two blades, large clip and large spey, glazed and etched, nickel silver bolsters, brass lined, stag handle with shield, weight per dozen 1¾ pounds.

No. 2513. 3¾ inches..... ..per dozen, **$28.80**

One half dozen in a box



Two blades, large clip point and large spear point, glazed and etched, nickel silver bolsters, brass lined, stag handle with shield weight per dozen 1¾ pounds.

No. 2399. 3½ inches..... ...per dozen, **$27.60**

One half dozen in a box

POCKET KNIVES
HAMMER BRAND

Three blades, large clip point, large spey point and small spear point, glazed and etched, nickel silver bolsters, brass lined, stag handle with shield, weight per dozen 1⅛ pounds.

No. 3510. 3¼ inches.. . .....per dozen, **$33.60**

One half dozen in a box

Three blades, two large clip points, small spear point, glazed and etched, nickel silver bolsters, brass lined, stag handle with shield, weight per dozen 1⅝ pounds.

No. 307. 3½ inches.. . ...per dozen, **$36.00**

One half dozen in a box

Three blades, all large, clip, spey and sheep foot, glazed and etched, nickel silver bolsters, brass lined, stag handle with shield, weight per dozen 2¼ pounds.

No. 3515. 3¼ inches .. ..per dozen, **$36.00**

One half dozen in a box

Cowboy

Three large blades, clip, spear and spey, glazed and etched, nickel silver bolsters, brass lined, ebony handle with shield, weight per dozen 2⅛ pounds.

No. 3222. 3¼ inches . ...per dozen, **$33.60**

One half dozen in a box

Cattle

Three large blades, spear, spey and sheep foot points, glazed and etched, nickel silver bolsters, brass lined, stag handle with shield, weight per dozen 2¼ pounds.

No. 3220. 3½ inches.....per dozen, **$34.80**

One half dozen in a box

Two blades, large clip point and large spey point and belt punch, glazed and etched, nickel silver bolsters, brass lined, stag handle with shield, weight per dozen 1⅝ pounds.

No. 3513. 3¼ inches.. ....per dozen, **$34.80**

One half dozen in a box

POCKET KNIVES
HAMMER BRAND

Cattle

Two large blades, clip point and spey point and belt punch, glazed and etched, nickel silver bolsters, brass lined, stag handle with shield, weight per dozen 2¼ pounds.

No. 3822. 3¾ inches.....per dozen, **$44.00**

One half dozen in a box

Two large blades, clip point and spey point and a belt punch, glazed and etched, nickel silver bolsters, brass lined, stag handle with shield, weight per dozen 2 pounds.

No. 3521. 3¼ inches..... . . .per dozen, **$36.00**

One half dozen in a box

Two large blades, spear and spey, belt punch, glazed and etched, nickel silver bolsters, brass lined, stag handle with shield, weight per dozen 2 pounds.

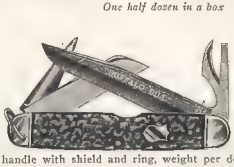
No. 3402. 3¼ inches .. ..per dozen, **$33.60**

One half dozen in a box

Three blades, spear points, and nail file, glazed, nickel silver bolsters, brass lined, stag handle with shield, weight per dozen ⅞ pound.

No. 422. 2¾ inches.. . . per dozen, **$30.00**

One half dozen in a box



Buffalo Bill

Combination knife with four blades; large clip, large sheep foot, belt punch and can opener, nickel silver bolsters, brass lined, stag handle with shield and ring, weight per dozen 4¼ pounds

No. 4018. 4¾ inches.....per dozen, **$60.00**

One half dozen in a box

POCKET KNIVES
HAMMER BRAND

Pruners

One glazed blade, steel bolster, steel lined, redwood handle, weight per dozen 2½ pounds.

No. 142. 4 inch ..... .per dozen, **$18.00**

One half dozen in a box

Scribers

One glazed blade, steel bolster, steel lined, redwood handle, weight per dozen 1½ pounds.

No. 135. 3½ inch ..... .per dozen, **$19.20**

One half dozen in a box

Corn

One glazed blade, brass lined, ivory shell handle, weight per dozen ¾ pound.

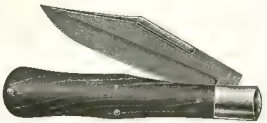
No. 104. 3¼ inch ..... .per dozen, **$19.20**

One half dozen in a box

One large blade, clip point, glazed and etched, nickel silver bolster, cap and shield, brass lined, stag handle, weight per dozen 2 pounds.

No. 1789. 3¾ inch ..... .per dozen, **$18.00**

One half dozen in a box



One large heavy beveled blade, clip point, glazed, steel bolster, steel lined, redwood handle, weight per dozen 4¼ pounds.

No. 188. 5½ inch ..... per dozen, **$26.40**

One half dozen in a box

Two blades, large clip point, small spear point, glazed, steel bolster, steel lined, stag handle, weight per dozen 1½ pounds.

No. 2643. 3 inch ..... .per dozen, **$13.20**

One half dozen in a box

POCKET KNIVES
HAMMER BRAND

Two blades, spear point, glazed, steel bolster, steel lined, redwood handle, weight per dozen 1¾ pounds.

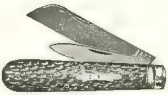
No. 226. 3¼ inch ..... .per dozen, **$13.20**

One half dozen in a box

Two blades, spear point, glazed, steel bolster, steel lined, stag handle with shield, weight per dozen 2 pounds.

No. 2444. 3¼ inch ..... .per dozen, **$16.80**

One half dozen in a box



Two blades, large sheep foot, small spear point, glazed steel bolster, steel lined, stag handle with shield, weight per dozen 2 pounds

No. 2448. 3¼ inch ..... .per dozen, **$16.80**

One half dozen in a box

Two blades, large clip point, small spear point, glazed, steel bolster, steel lined, stag handle with shield, weight per dozen 2 pounds.

No. 2449. 3¼ inch ..... .per dozen, **$16.80**

One half dozen in a box

Two blades, spear point, glazed and etched, steel bolster, brass lined, stag handle, weight per dozen 2½ pounds.

No. 2256. 3½ inch ..... .per dozen, **$16.80**

One half dozen in a box

Boy Scout

Two blades, large sheep foot, small spear point, glazed and etched, nickel silver bolster, brass lined, ebony handle, weight per dozen 2¼ pounds.

No. BS2. 3½ inch ..... .per dozen, **$20.40**

One half dozen in a box

POCKET KNIVES
HAMMER BRAND

Two blades, large spear point, glazed and etched, and belt punch, steel bolster, brass lined, redwood handle with shield, weight per dozen 2 pounds.

No. 6444. 3¼ inch ..... per dozen, **$18.00**
One half dozen in a box

Two blades, spear point, glazed, nickel silver bolster, brass lined, stag handle with shield, weight per dozen 1¼ pounds

No. 25 2⅞ inch ..... per dozen, **$19.20**
One half dozen in a box

Two blades, large clip point, small spear point, glazed, nickel silver bolster, brass lined, stag handle with shield, weight per dozen 1¼ pounds.

No. 26. 2⅞ inch ..... per dozen, **$19.20**
One half dozen in a box

Two blades, large sheep foot, small spear point, glazed, nickel silver bolster, brass lined, stag handle with shield, weight per dozen 1½ pounds.

No. 27. 2⅛ inch ..... per dozen, **$19.20**
One half dozen in a box

Two blades, spear point, glazed and etched, steel bolster, brass lined, stag handle with shield, weight per dozen 3½ pounds.

No. 6030. 3½ inch ..... per dozen, **$20.40**
One half dozen in a box

Two blades, large clip point, small spear point, glazed and etched, nickel silver bolster and cap, brass lined, stag handle with shield, weight per dozen 2 pounds.

No. 2789. 3¾ inch ..... per dozen, **$27.60**
One half dozen in a box

POCKET KNIVES
HAMMER BRAND

Two blades, spear point, glazed and etched, nickel silver bolster and cap, brass lined, stag handle with shield, weight per dozen 2¼ pounds

No. 2957. 3½ inch ..... per dozen, **$22.40**
One half dozen in a box

Two blades, spear point, glazed and etched, nickel silver bolster and cap, brass lined, stag handle with shield, weight per dozen 1¾ pounds.

No. 2423. 3¼ inch ..... per dozen, **$20.80**
One half dozen in a box

Two blades, spear point, glazed and etched, steel bolster and cap, brass lined, redwood handle with shield, weight per dozen 2½ pounds.

No. 228. 3½ inch ..... per dozen, **$21.60**
One half dozen in a box

Two blades, spear point, glazed and etched, nickel silver bolster and cap, brass lined, stag handle with shield, weight per dozen 2½ pounds.

No. 2538. 3¾ inch ..... per dozen, **$27.60**
One half dozen in a box

Two blades, large saber, small spear, glazed and etched, nickel silver bolster and cap, brass lined, stag handle with shield, weight per dozen 2¾ pounds

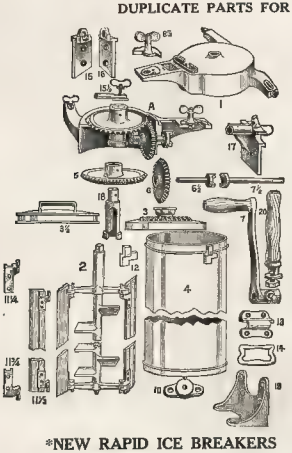
No. 2553. 3½ inch ..... per dozen, **$27.00**
One half dozen in a box

Two blades, spear point, glazed and etched, nickel silver bolster and cap, brass lined, stag handle with shield, weight per dozen 3½ pounds.

No. 2997. 4¼ inch ..... per dozen, **$30.00**
One half dozen in a box

ICE CREAM FREEZER PARTS

DUPLICATE PARTS FOR DOUBLE ACTION CROWN FREEZERS



No.	Name of Part	Price, Each Quarts 24	32
	Pail only, no parts except handle to carry it	$11.00	13.50
	Pail with handles and fittings, Nos. 10, 15, 16, 17	12.50	15.00
A	Cross bar or top plate, with all parts attached	8.10	9.60
1	Cross bar or top plate only, without attached parts	5.40	6.40
2	Dasher, complete with scrapers and hinges	4.05	4.80
3	Lid or can cover, iron, as used in freezer	3.35	4.00
3½	Lid or can cover, tin, as used for packing can	3.35	4.00
4	Can only	6.75	8.00
5	Upper gear on outside top of cross bar	1.40	1.40
6	Driving gear, in cross bar at end of clutch shaft	.80	.80
6½	Clutch shaft, for driving gear	.80	.80
7	Crank	1.10	....
7½	Crank or fly wheel shaft	.80	.80
8½	Knob or catch to hold down cross bar, including rivet	.20	.20
10	Centerpiece, screwed to bottom of pail, supporting can	.25	.25
11½	Wood scraper, with hinges	.40	.40
11¼	Upper scraper lug or hinge	.20	.20
11¾	Lower scraper lug or hinge	.20	.20
12	Carrier for can, soldered to outside top of can	.20	.20
13	Plate for side handle on pail	.25	.25
14	Handle for side handle on pail	.25	.25
15	Pivot, right hand, for bolt in cross bar to swing in	.25	.25
15½	Bolt and screw, supporting cross bar in right hand pivot	.25	.25
16	Pivot, left hand, for pin on cross bar to swing in	.25	.25
17	Bearing for crank or fly wheel shaft, with bolts	1.00	1.00
18	Socket shaft, holding upper gear to shaft	.65	.65
19	Support for pail or fly wheel freezer	.75	.75
20	Handle and bolt for fly wheel	.40	.40
21	Wrench for fly wheel, crank, etc	.40	.40
	Fly wheel only	8.00	12.00

NOTE—When ordering, give name of freezer, number and size of freezer.

*NEW RAPID ICE BREAKERS

A hand operated machine designed for use by hotels, restaurants, ice cream makers, etc., constructed so that little of fine or shaved ice is cut, all ice being broken into pieces the size of walnuts.

Opening for ice is 6x8 inches; has capacity of over half ton per hour; cylinder is 3 inch diameter; picks are of high grade cast steel, ground and tempered, are easily removed for sharpening; has galvanized sheet steel box to hold broken ice.

The breaker, including fly wheel, is galvanized all over to prevent rust.

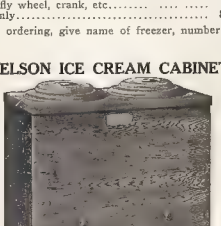
No.	108
Height over all, inches	17
Width, inches	11
Depth front to back, inches	13
Fly wheel diameter, inches	13
Ice pan, inches	6½ x 9½ x 12
Weight, pounds	50

One in a crate

Price on application

*Not carried in stock; will ship from factory.

*NELSON ICE CREAM CABINETS



The Nelson patent cabinets are constructed entirely of wood. Everlasting California redwood used for the outer case, and Virginia white cedar for the circular independent compartments. The compartments are separated from the outer walls and from each other by granulated cork (the best non-conductor of heat and cold known). Drain pipes are of heavy brass tubing and are secured by brass lock nuts.

All stock cabinets finished in a rich mahogany color, two coats shellac, two coats of special brine proof varnish.

Guaranteed to keep ice cream in perfect condition 24 to 36 hours with one packing of ice properly done.

Without Cans			
Number of cans	2	2	2
Capacity, quarts	12	20	40
Length, inches	33	36	44
Width, inches	18	19¼	24
Height, inches	31	32½	35
Weight crated, pounds	130	160	240

Price on application

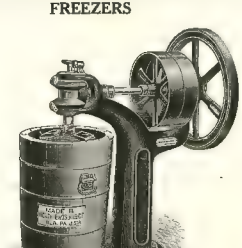
ICE CREAM FREEZERS

JUMBO LIGHTNING

Designed for use by confectioners, hotels, etc Has automatic twin scrapers, insuring continuous scraping of frozen cream Top plate swings up as well as detachable. White pine tubs with electric welded wire hoops. Can of heavy tin with drawn steel body. Gears are covered All inside parts heavily block tin coated. Top mountings galvanized, fly wheel japanned.

Quarts	14	20
Each	$33.00	49.00
Weight, pounds	63	96

*COMBINATION MACHINE ICE CREAM FREEZERS



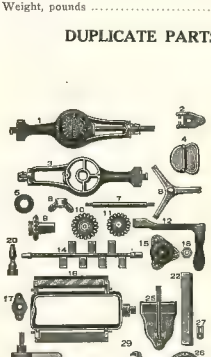
Consists of freezer complete, with platform. Stand, pulleys and gearing can be used with 18, 24, 32 or 40 quart freezers. The smaller sizes of freezer cans have extension pieces on can cover to reach between gearing to the can or beater. Tight and loose pulleys 18×4 inches, to run about 150 r. p. m. Fly wheels 30 inches diameter Height floor to driving shaft, 37¾ inches. Base plate, 24×37½ inches.

Freezer, quarts	18	24	32	40
Style A. Each	$.....	.....	.....	.....
Weight, pounds	587	596	607	618

Prices on application

*Not carried in stock; will ship from factory.

DUPLICATE PARTS FOR THE "WHITE MOUNTAIN" HAND FREEZER



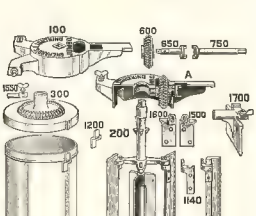
No.	Name of Part	Price, Each — Quarts 1	2	3	4	6	8	10	12	15	20	25
1	Gear frame, with gears	$1.60	2.50	2.65	2.80	4.70	5.00	5.45†	5.85†	10.40†	10.95†	14.10
2	Small ear	.22	.38	.38	.38	.48	.48	...	...	...	...	...
3	Gear frame, without gears	.60	1.05	1.15	1.20	2.20	2.50	2.80†	4.75	†5.10	†5.30	†6.70
4	Tub handle	...	...	...	...	...	...	.50	.50	.50	.65	.65
5	Ring for cover of can	.14	.20	.20	.20	.20	.20	.20	.34	.34	.34	.48
6	Thumb nut	...	...	...	...	...	...	...	.22	.22	.22	.22
7	Shaft	.20	.22	.28	.34	.50	.56	.64	1.02	1.02	1.22	1.68
8	Can socket	.20	.22	.34	.34	.34	.50	.50	.65	.65	.65	1.18
9	Shank gear	.28	.50	.50	.50	1.04	1.04	1.04	1.70	1.70	1.70	2.20
10	Top gear	.20	.34	.34	.34	.65	.65	.65	1.18	1.18	1.18	1.88
11	Screw gear	.20	.34	.34	.34	.58	.58	.58	1.02	1.02	1.02	1.36
12	Crank	.34	.50	.65	.65	.84	.84	.84	1.72	1.72	1.72	1.98
14	Inside beater	.36	.42	.52	.64	.78	.98	1.42	1.94	2.12	2.46	3.52
15	Large center	...	...	...	...	...	...	...	.34	.34	.34	.34
16	Shaft nut	...	...	...	...	...	...	...	.14	.14	.14	.14
17	Small center	.14	.18	.18	.18	.18	.18	.18	...	...	...	...
18	Outside beater	.52	.70	.88	1.06	1.48	1.76	2.30	2.65	2.82	3.70	4.58
20	Spindle	.18	.20	.20	.20	.50	.50	.50	.65	.65	.65	1.05
22	Wood scraper	.10	.14	.14	.14	.18	.18	.18	.28	.28	.28	.42
24	Large ear	...	...	...	...	...	...	...	1.70	1.70	1.70	1.70
25	Large latch	...	...	...	...	...	...	...	1.30	1.30	1.30	1.30
26	Gear cap	.18	.34	.34	.34	.68	.68	.68	1.05	1.05	1.05	1.18
27	Wood scraper holder	.10	.14	.14	.14	.14	.14	.14	.18	.18	.18	.20
29	Frame latch	.14	.18	.18	.18	.18	.18	.18	...	...	...	...

NOTE—Order by registered number of repair and always state size of freezer for which repair part is wanted.

†Not illustrated.

ICE CREAM FREEZER PARTS

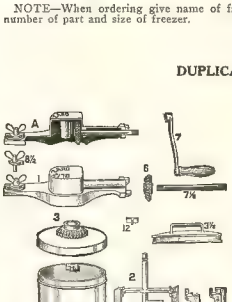
DUPLICATE PARTS FOR JUMBO LIGHTNING FREEZERS



NOTE—When ordering give name of freezer, number of part and size of freezer.

No.	Name of Part	Price, Each Quarts 14	20
	Pail only, no parts except handle to carry it	$ 7.00	9.50
	Pail, with handles and fittings, Nos. 1000, 1500, 1600, 1700	8.00	10.50
A	Cross bar or top plate, with all parts attached	5.10	7.00
100	Cross bar or top plate only, without any attached parts	3.40	4.60
200	Dasher, complete with scraper and wheel dasher	3.40	4.60
300	Lid or can cover, iron as used in freezer	2.25	3.50
350	Lid or can cover, tin as used for packing can	2.25	3.50
400	Can only	3.75	5.75
600	Driving gear (at end of clutch shaft)	.65	.80
650	Clutch shaft, for driving gear	.65	.80
700	Crank	....	.90
750	Crank or fly wheel shaft	.65	.80
1000	Center piece, screwed to bottom of pail, supporting can	.25	.25
1120	Wood scraper, including upper and lower scraper lugs	.30	.40
1140	Upper scraper lug or hinges	.15	.20
1160	Lower scraper lug or hinges	.15	.20
1200	Carrier for can, soldered to outside top of can	.15	.20
1300	Plate for side handle on pail	.20	.25
1400	Handle for side handle on pail	.20	.25
1500	Pivot, right hand, for bolt in cross bar to swing in	.20	.25
1550	Bolt and screw, supporting cross bar in right hand pivot	.20	.25
1600	Pivot, left hand, for pin on cross bar to swing in	.20	.25
1700	Bearing for crank or fly wheel shaft, with bolts	.75	1.00
1900	Support for pail of fly wheel freezer	....	.75
2000	Handle and bolt for fly wheel	.40	.40
2100	Wrench for screw of fly wheel shaft, etc	.40	.40
	Fly wheel only	5.00	8.00

DUPLICATE PARTS FOR BLIZZARD FREEZERS



No.	Name of Part	Price, Each Quarts 1	2	3	4	6
	Pail only, no fittings except handle to carry it	$1.40	1.55	1.80	2.20	2.80
	Pail, with handle and fittings, Nos. 8, 9 and 10	1.60	1.75	2.00	2.50	3.15
A	Cross bar or top plate, with all parts attached	1.00	1.15	1.35	1.65	2.10
1	Cross bar or top plate only, no attached parts	.65	.75	.90	1.10	1.40
1½	Cap only, for cross bar or top plate	.35	.40	.45	.55	.70
2	Dasher, including scraper and hinges	.50	.60	.70	.85	1.05
3	Lid or can cover, iron, as used in freezer	.50	.60	.70	.85	1.05
3½	Lid or can cover, tin, as used for packing can	.50	.60	.70	.85	1.05
4	Can only	.85	.95	1.15	1.40	1.75
5	Upper gear (in cap of cross bar)	.20	.25	.30	.35	.45
6	Driving gear (at end of crank shaft)	.20	.20	.20	.20	.25
7	Crank	.20	.20	.25	.25	.30
7½	Crank shaft	.20	.20	.20	.20	.25
8	Hook screwed to top of pail, opposite side to crank	.20	.20	.20	.20	.20
8½	Knob or catch (engaging in hook), including rivet	.20	.20	.20	.20	.20
9	Sidepiece, screwed to top of pail, side next crank	.20	.20	.20	.25	.30
10	Centerpiece, screwed to bottom of pail, supporting can	.20	.20	.20	.20	.20
11⅛	Wood scraper, with hinges	.20	.20	.20	.20	.20
11¼	Upper hinge for scraper	.10	.10	.10	.10	.10
11¾	Lower hinge for scraper	.10	.10	.10	.10	.10
12	Carrier for can, soldered to inside at top of can	.10	.10	.10	.10	.10
13	Plate for side handle of pail	...	...	...	...	...
14	Handle for side handle of pail	...	...	...	...	...

NOTE—When ordering give name of freezer, number of part and size of freezer.

ICE CREAM FREEZERS

WHITE MOUNTAIN

Triple Motion

The can moves from right to left, the outside beater moves from left to right, scrapes with its wooden bars the frozen cream from the can and throws it toward the center, where it is met by the floats of the inside beater moving in an opposite direction and returned to the inside surface of the can to be refrozen. Seasoned waterproof tubs, galvanized steel hoops, bail and crank. Malleable iron tinned beaters. Heavy cans. Top mountings galvanized.

Quarts	1	2	3	4	6	8	10
Each $4.85	5.65	6.75	8.25	10.45	13.50	18.00	
Weight, pounds.	6	11	13	16	20	26	34

*WHITE MOUNTAIN CONFECTIONERS'

Triple Motion

These freezers have all the White Mountain freezer features and equipped with a fly wheel which increases the operator's power. Especially adapted for the use of hotels, cafes and ice cream parlors. Has waterproof tub with galvanized steel hoops. Malleable iron tinned beaters. Heavy cans. Fly wheel japanned, top mountings galvanized.

Quarts	20	25
Each $40.60	51.55	
Weight, pounds	96	120

*WHITE MOUNTAIN PLATFORM

Triple Motion

The platform and stand are of cast iron, heavily coated with brineproof paint.

This freezer has the triple motion and duplex tinned malleable iron beaters with double self-adjusting wooden scraping bars.

The pulley is 16x5 and should turn about 136 revolutions per minute. Fly wheels of the regular sizes can be used instead of the pulley and the freezer operated by hand power. Waterproof tub, with galvanized steel hoops, malleable iron tinned beaters. Top mountings galvanized.

Quarts	15	20	25
Each $60.00	70.00	80.00	
Weight, pounds	143	145	210

*Not carried in stock; will ship from factory.

ICE CREAM FREEZERS

LIGHTNING

Automatic twin scrapers, which insure automatic, positive and continuous scraping of frozen cream from side of can. Wheel dasher revolves continuously. Top plate is made to swing up and is also detachable. Pails are of pine with electric welded wire hoops. Body of can is made of the finest quality heavy tin plate, the bottom of drawn steel. The gears are completely covered. All inside parts coming in contact with the cream are heavily coated with pure block tin. All outside parts are smoothly and heavily galvanized.

Quarts	1	2	3	4	6	8	10
Each $4.65	5.50	6.50	8.00	10.00	13.00	17.00	
Weight, pounds.	7¾	9¾	11¾	14½	18¾	24¼	29½

BLIZZARD

The Blizzard is an excellent low price freezer, is simple in the construction of the operating mechanism, being single action, that is, the can only revolves. The pail is made of pine with electric welded wire hoops. The can is the same as used in the Lightning freezer. The gears are completely covered. All inside parts coming in contact with cream are heavily coated with pure block tin. All outside parts are heavily galvanized.

Quarts	1	2	3	4	6
Each $4.65	5.50	6.50	8.00	10.00	
Weight, pounds	6¾	8¾	10¼	12¾	17

AUTO VACUUM

The Auto Vacuum Ice Cream Freezer is constructed with a hollow wall, or air space, formed by double welded construction throughout, which prevents heat from entering the freezing chamber, and cold from leaving it. The action of the salt and ice, protected by the air space, produces a temperature below the freezing point, resulting in a perfect refrigerating plant on a small scale.

The Auto Vacuum Ice Cream Freezer is divided into two separate compartments with an opening at each end, one for the cream mixture, the other for the ice and salt. It is impossible for ice or salt to seep into the cream compartment, as it so frequently does with old style freezers.

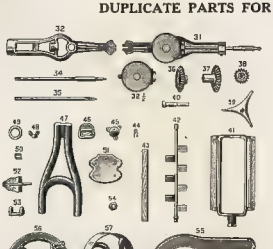
It is absolutely sanitary and easy to clean. No paddles or loose parts to adjust or fasten. Nothing to take apart. Nothing to get out of order. No wooden parts to become water soaked and absorb all sorts of dirt and impurities.

1 quart or 6 dish size. Weight each 7 pounds...each, **$5.00**
2 quart or 12 dish size. Weight each 8 pounds...each, **6.00**
4 quart or 24 dish size. Weight each 15 pounds...each, **10.00**

Packed each in an individual wooden box

ICE CREAM FREEZER PARTS

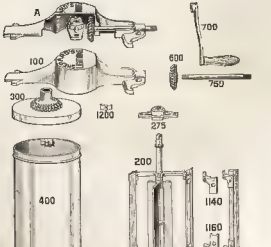
DUPLICATE PARTS FOR WHITE MOUNTAIN PLATFORM FREEZERS



NOTE—In ordering platform repairs, pay no attention whatever to numbers on old castings. Order only by registered number of repairs as shown in cut, and state whether for 15, 20 or 25 quart size.

No.	Name of Part	Price, Each — Quarts 15	20	25
31	Gear frame complete with gears	$17.65	21.00	25.50
32	Gear frame only (no gears)	5.30	6.20	11.10
32½	Covering for gears	3.50	3.50	4.40
34	Pulley shaft (special)	3.40	3.40	4.00
35	Fly-wheel shaft (regular)	1.95	1.95	2.45
36	Top gear	2.65	2.65	2.65
37	Shank gear	3.40	3.40	4.40
38	Screw gear	2.00	2.00	2.00
39	Can socket	.65	.65	1.18
40	Spindle	1.05	1.05	1.40
41	Outside beater	2.82	3.70	4.58
42	Inside beater	2.12	2.46	3.52
43	Wood scraper	.28	.28	.42
44	Wood scraper holder	.18	.18	.20
45	Large center	.34	.34	.34
46	Tub handle	.50	.65	.65
47	Leg or stand	6.80	7.68	11.72
48	Thumb nut	.22	.22	.22
49	Ring for cover of can	.34	.34	.48
50	Tub stop attached to base	.25	.25	.25
51	Top or stand plate	2.12	2.12	3.78
52	Large latch	1.30	1.30	1.30
53	Swivel, bolted to top plate and pinned to gear frame	.40	.40	.82
54	Shaft nut	.14	.14	.14
55	Base	12.70	13.84	16.08
56	Fly wheel	6.00	7.40	8.95
57	Pulley	11.50	11.50	11.50
	Freezer tubs	7.44	9.30	11.90
	Freezer cans (steel, tin-plated)	8.54	10.36	13.86
	Covers for freezer cans	2.28	2.60	3.56

DUPLICATE PARTS FOR LIGHTNING HAND FREEZERS



NOTE—When ordering give name of freezer, number of part and size of freezer.

No.	Name of Part	Price, Each — Quarts 1	2	3	4	6	8	10
	Pail only, no fittings, except handle to carry it	$1.40	1.55	1.80	2.20	2.80	3.60	4.80
	Pail, with handle and fittings, Nos. 800, 900 and 1000	1.60	1.75	2.00	2.50	3.15	4.10	5.40
A	Top plate or cross bar, with all parts attached	1.00	1.15	1.35	1.65	2.10	2.70	3.30
100	Top plate or cross bar casting only, no parts attached	.65	.75	.90	1.10	1.40	1.80	2.40
200	Dasher, complete, with scraper and wheel dasher	.65	.75	.90	1.10	1.40	1.80	2.40
275	Dasher, holder and screws, to go inside top plate	.20	.20	.20	.20	.25	.30	.35
300	Lid or can cover, tin as used in freezer	.50	.60	.70	.85	1.05	1.35	1.80
350	Lid or can cover, tin as used for packing can	.50	.60	.70	.85	1.05	1.35	1.80
400	Can only	.85	.95	1.15	1.40	1.75	2.25	3.00
600	Driving gear, at end of crank shaft	.20	.20	.20	.20	.25	.30	.35
700	Crank	.20	.20	.25	.25	.30	.40	.50
750	Crank shaft	.20	.20	.20	.20	.25	.25	.30
800	Lock plate, screwed to top of pail, side next crank	.20	.20	.20	.20	.25	.30	.35
900	Hinge ear, screwed to top of pail, side opposite crank	.20	.20	.20	.20	.25	.30	.35
1000	Centerpiece, screwed to bottom of pail, supporting can	.20	.20	.20	.20	.20	.20	.20
1120	Wood scraper, including upper and lower lugs or hinges	.20	.20	.20	.20	.20	.30	.30
1140	Upper scraper lug or hinge	.10	.10	.10	.10	.10	.15	.15
1160	Lower scraper lug or hinge	.10	.10	.10	.10	.10	.15	.15
1200	Carrier for can, soldered to inside at top of can	.10	.10	.10	.10	.10	.10	.10
1300	Plate for side handle of pail							.20
1400	Handle for side handle of pail							.20

BAILEY ADJUSTABLE IRON BLOCK PLANES

Iron body, japanned inside, polished bottom and sides, japanned trim, tempered and ground steel cutter, nickel plated knob, adjustable, with throat and lateral adjustment

No. 9½. Adjustable, with 1⅝ in. cutter, length 6 in., weight 1½ lb. ..... each, **$4.90**

One in a box

Iron body, japanned inside, polished bottom and sides, nickel plated trim, tempered and ground steel cutter, adjustable, with throat and lateral adjustment.

No. 16. Adjustable, 1⅝ in. cutter, length 6 in., weight 1½ lb. ..... each, **$5.60**

One in a box

No. 9¾ **No. 18**

Iron body, japanned inside, polished bottom and sides, tempered and ground steel cutter, adjustable, with throat and lateral adjustment.

No. 9¾. Adjustable, japanned trim, nickel plated knob, rosewood stained handle, 1⅝ in. cutter, length 6 in., weight 1⅝ lb. ..... each, **$6.10**

No. 18. Adjustable, nickel plated trim, steel cap, knuckle joint, 1⅝ in. cutter, length 6 in., weight 1½ lb. ..... each, **6.10**

One in a box

BAILEY ADJUSTABLE IRON PLANES

Smooth Bottom

Iron body, japanned inside, polished bottom and sides, cutters English steel, tempered, ground and polished, rosewood handles and knobs.

Nos. 2 to 4

Nos. 5 and 6

SMOOTH, JACK AND FORE

Nos.	2	3	4	5	6
Style plane	Smth.	Smth.	Smth.	Jack	Fore
Cutter, in.	1⅝	1¾	2	2	2⅜
Length, in.	7	8	9	14	18
Weight, lb.	2½	3½	3¾	4½	7¼
Each	$9.20	9.60	10.50	12.10	15.40

One in a box

JOINTER

Nos.	7	8
Cutter, in.	2½	2⅝
Length, in	22	24
Weight, lb.	8½	9¼
Each	$17.60	21.00

One in a box

BAILEY ADJUSTABLE IRON PLANES

Corrugated Bottom

Iron body, japanned inside, polished bottom and sides, cutters English steel, tempered, ground and polished, rosewood handles and knobs.

SMOOTH

Nos.	3C	4C
Cutter, in.	1¾	2
Length, in.	8	9
Weight, lb	3½	3¾
Each	$10.30	11.20

One in a box

JACK, FORE AND JOINTER

Nos.	5C	6C	7C	8C
Style plane	Jack	Fore	Jointer	Jointer
Cutter, in.	2	2½	2½	2⅝
Length, in.	14	18	22	24
Weight, lb.	4¾	7¾	8¼	9¾
Each	$13.00	16.60	18.90	22.60

One in a box

STANLEY BED ROCK IRON PLANES

Corrugated Bottom

The cutter, frog and bottom are so designed and fitted that they are practically one solid piece of metal. The frog may be adjusted either forward or backward without removing the lever and cutter. The cutter is adjustable both endwise and sidewise. The handle and knob are of rosewood.

Iron body, japanned inside, polished bottom and sides, cutters English steel, tempered, ground and polished, rosewood handles and knobs.

SMOOTH

Nos.	603C	604C
Cutter, in.	1¾	2
Length, in.	8	9
Weight, lb.	3¼	3¾
Each	$11.70	12.60

One in a box

JACK, FORE AND JOINTER

Nos.	605C	606C	607C
Style plane	Jack	Fore	Jointer
Cutter, in.	2	2⅜	2½
Length, in.	14	18	22
Weight, lb.	4¾	7¾	8¼
Each	$14.50	18.30	21.10

One in a box

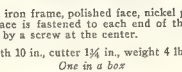
STANLEY IRON PLANES

CIRCULAR PLANES

Japanned iron frame, polished face, nickel plated adjustment. The face is fastened to each end of the plane body and adjusted by a screw at the center.

No. 20. Length 10 in., cutter 1¾ in., weight 4 lb. . each, **$19.60**

One in a box



EDGE TRIMMING PLANES

Iron body, japanned, polished bottom, tempered and ground steel cutter; designed for trimming or smoothing ends of boards, for a close or tight fit; has a right angle rest or guide from the cutter edge; cutter works on a skew, giving an easy cut.

No. 95. Length 6 in., cutter ⅜ in., weight 1¼ lb. . each, **$4.25**

One in a box

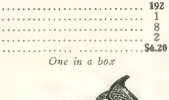
HANDLED IRON RABBET PLANES

Japanned iron stock, polished surfaces

These planes will lie perfectly flat on either side, and can be used equally as well with right or left hand while planing into corners or up against perpendicular surfaces Fitted with spur which permits them to be used for working across the grain. Also fitted with a detachable depth gauge.

Nos.	192	191	190
Cutter, in.	1	1¼	1½
Length, in.	8	8	8
Weight, lb.	2	2¼	2½
Each	$4.20	6.60	7.00

One in a box



DUPLEX FILLETSTER AND RABBET PLANES

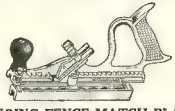
Japanned iron stock, polished surfaces

Has two seats for the cutter, one for regular work and the other where a bullnose is required. It has a spur and a removable depth gauge. The adjustable fence can be used on either side and slides under the bottom, regulating the width of the cut.

No. 78. Length 8½ in., cutter 1½ in., weight 3 lbs. . each, **$7.90**

One in a box

STANLEY IRON PLANES



SWINGING FENCE MATCH PLANES

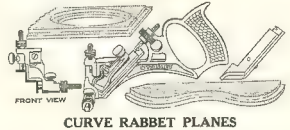
Nickel plated iron stock, rosewood knob

This plane has two plow cutters of the same width, and one extra wide cutter. The fence in one setting exposes two cutters for cutting the tongue, and, when reversed, leaves only one exposed for cutting the groove. On thicker boards than the plane works on center, the extra wide cutter is substituted for groove cutter when cutting tongue.

No. 48. Cuts $\frac{5}{16}$ in. groove on boards ¾ to 1¾ in., centers on ⅜ in., weight 3¾ lb. . . . . each, **$12.60**

No. 49. Cuts $\frac{7}{16}$ in. groove on boards ½ to ¾ in., centers on ½ in., weight 2⅝ lb. . . . . each, **12.60**

One in a box



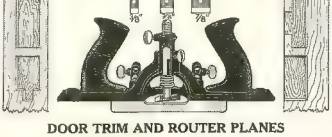
CURVE RABBET PLANES

Nickel plated iron stock

Will cut rabbets on circular or other curved and irregular edges; works whether the rabbet is to be cut on the outside edges of work or on edges of openings cut out of the surface of the work; provided with two cutters fastened together by a screw in such relation, one to the other, as the work in hand requires. The upper cutter acts as a spur for the lower and also cuts the side of the rabbet The lower cutter is a skew cutter which follows spur and cleanly cuts bottom of the rabbet; stock and handle are cast in one piece; plane is fitted with an adjustable depth gauge; fence is adjustable and has a curved face

No. 196. Length 9 in., with two cutters, weight 3 lb. . . . . each, **$16.00**

One in a box



DOOR TRIM AND ROUTER PLANES

Japanned iron stock, rosewood handles

Will make mortises for butts, face plates, strike plates, escutcheons up to a depth of $\frac{7}{16}$ in. and a width of 3 in. A fence regulates the position of the cut and insures the sides being parallel; depth of cut is governed by a positive stop. Can be changed into a router plane. An extra wooden bottom of any size desired can be screwed on, enabling the user to router on large openings.

No. 171. With three forged steel cutters, ¾, ⅝ and $\frac{7}{16}$ in. wide, length 11 in, weight 3 lb. . . . . each. **$14.10**

One in a box

STANLEY IRON BLOCK PLANES

No. 102

No. 103

Japanned iron body and trim, polished bottom, tempered and ground steel cutter.

No. 102. Non-adjustable, with 1⅜ in. cutter, length 5½ in., weight ⅞ lb. ..... each, **$1.80**

No. 103. Adjustable, with 1⅜ in. cutter and lever adjustment, length 5½ in., weight ⅞ lb. ..... each, **2.60**

One in a box

No. 110

No. 120

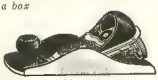
Iron body, japanned inside, polished bottom and sides, japanned trim, tempered and ground steel cutter, rosewood stained knob.

No. 110. Non-adjustable, with 1⅝ in. cutter, length 7 in., weight 1⅝ lb. ..... each, **$2.50**

No. 120. Adjustable, with 1⅝ in. cutter and lever adjustment, length 7 in., weight 1⅝ lb. ..... each, **3.60**

One in a box

No. 203



No. 220

Iron body, japanned inside, polished bottom and sides, japanned trim, tempered and ground steel cutter, rosewood stained knobs, adjustable.

No. 203. Adjustable, with 1¾ in. cutter, screw adjustment, length 5½ in., weight 1¾ lb. ..... each, **$3.20**

No. 220. Adjustable, with 1⅝ in. cutter, screw adjustment, length 7 in., weight 1½ lb. ..... each, **3.70**

One in a box

STANLEY LOW ANGLE BLOCK PLANES

No. 61

No. 60

Iron body, japanned inside, polished bottom and sides, nickel plated trim, tempered and ground steel cutter, adjustable endwise cutters.

No. 61. Non-adjustable throat, cutter 1¾ in., length 6 in., rosewood stained knob, weight 1¼ lb. ... each, **$5.00**

No. 60. Adjustable, with throat and lateral adjustment, 1⅜ in. cutter, length 6 in., weight 1¼ lb. ..... each, **5.70**

One in a box

No. 65½

Iron body, japanned inside, polished bottom and sides, japanned trim, tempered and ground steel cutter, adjustable endwise cutter.

No. 65½. Adjustable, with adjustable throat and lateral adjustment, 1⅝ in. cutter, length 7 in., weight 1⅜ lb. ..... each, **$3.60**

One in a box

STANLEY IRON PLANES

No. 65 LOW ANGLE BLOCK PLANES

Iron body, japanned inside, polished bottom and sides, nickel plated steel cap, knuckle joint, tempered and ground steel cutter.

No. 65. Knuckle joint, cutter adjustable endwise, cutter 1⅝ in., length 7 in., weight 1¾ lb. ..... each, **$6.80**

One in a box

No. 62 LOW ANGLE PLANES

Iron body, japanned inside, polished bottom and sides, tempered and ground steel cutter, rosewood stained handle and knob, adjustable throat and lateral adjustment.

No. 62. Adjustable, with 2 in. cutter, length 14 in., weight 3⅝ lb. ..... each, **$6.70**

One in a box

No. 130 DOUBLE END BLOCK PLANES

Iron body, japanned inside, polished bottom and sides, japanned trim, tempered and ground steel cutter, rosewood stained knob

No. 130. Double end, with two slots and cutter seats, cutter 1⅝ in., length 8 in., weight 1⅝ lb. ..... each, **$3.70**

One in a box

No. 131 COMBINATION ADJUSTABLE PLANES

Iron body, japanned inside, polished bottom and sides, japanned trim, tempered and ground steel cutter, non-adjustable, rosewood stained knob.

No. 131. Combination adjustable block and bullnose plane, with two slots and cutter seats, cutter 1⅝ in., length 8 in., weight 1½ lb. ..... each, **$6.00**

One in a box

STANLEY RABBET PLANES

No. 75 BULLNOSE

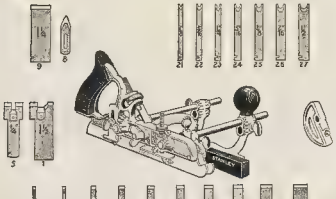
No. 90 CABINET MAKERS

No. 75. Japanned iron stock, polished bottom, 1 in. cutter, length 4 in., weight ⅝ lb. ..... each, **$1.80**

No. 90. Nickel plated iron stock, polished bottom, 1 in. steel cutter, adjustable throat can be widened or narrowed for coarse or fine work, cutter is adjustable endwise, can be used close into corners, length 4 in., weight 1 lb. ..... each, **9.50**

One in a box

STANLEY "FORTY-FIVE" PLANES



Seven tools in one, in compact and practical form. 1. Beading and center beading plane. 2. Plow. 3. Dado. 4. Rabbet and fillister. 5. Match plane. 6. Sash plane. 7. Slitting plane.

The plane has two principal parts, a main stock and a sliding section. The main stock carries the handle, cutter adjustment, a slitting tool, depth gauge, and forms a bearing for one edge of the cutter. The sliding section slides on two arms secured in the stock and has a bearing for the other edge, allowing cutters of different widths to be used. A fence also slides on these arms for use when working as a plow, beader or fillister, to gauge the distance from the cutter to the edge of the board and to keep the cutter at right angles to same. When used as a fillister, the fence slides under the bottom of the plane and determines the width of cutter exposed to the work.

The plane is fitted with spurs for use across the grain, etc., and can be used either right or left hand.

With each plane are furnished twenty-one cutters, all of which are shown in the cut. The cutters, together with the plane, are packed in a neat steel box.

All metal parts are nickel plated. The handle, knob and fence are made of selected rosewood.

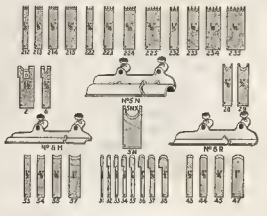
For beading at a distance from the edge of a board, attach cam rest (see cut at right of plane) to the front arm, between the sliding section and fence, to prevent the fence sagging. In certain work attach same to the rear arm, to prevent the plane from rocking.

No. 45. Nickel plated, with 22 cutters, complete weight 9½ lb .....each, **$30.00**

The following cutters are furnished with each plane. The list price is given in case duplicates should be required.

No.	Size	Style	Each
1	1½ in.	Sash tool	$1.00
5	¾ in.	Match tool	1.00
8		Slitting tool	.50
9	1¾ in.	Fillister	.50
10	1/16 in.	Plow and dado tool	.30
11	1/8 in.	Plow and dado tool	.30
12	1/4 in.	Plow and dado tool	.30
13	3/8 in.	Plow and dado tool	.30
14	1/2 in.	Plow and dado tool	.40
15	5/8 in.	Plow and dado tool	.40
16	1/2 in.	Plow and dado tool	.40
17	5/8 in.	Plow and dado tool	.40
18	3/4 in.	Plow and dado tool	.40
18½	7/8 in.	Plow and dado tool	.50
19	7/8 in.	Plow and dado tool	.50
21	1/8 in.	Beading tool	.30
22	3/16 in.	Beading tool	.30
23	1/4 in.	Beading tool	.30
24	5/16 in.	Beading tool	.40
25	3/8 in.	Beading tool	.40
26	7/16 in.	Beading tool	.50
27	1/2 in.	Beading tool	.50

SPECIALS FOR "FORTY-FIVE" PLANE



Special Cutters for "Forty-Five" Plane

No.	Size	Style	Each
2	1½ in.	Sash tool	$1.00
6	7/8 in.	Match tool	1.00
28	5/8 in.	Beading tool	.60
29	3/4 in.	Beading tool	.60
31	1/8 in.	Fluting tool	.60
32	5/16 in.	Fluting tool	.60
33	1/2 in.	Fluting tool	.60
34	3/8 in.	Fluting tool	.60
35	1/16 in.	Fluting tool	.60
36	1/2 in.	Fluting tool	.60
37	1/4 in.	Fluting tool	.60
38	3/4 in.	Fluting tool	.60
212	1/8 in.	Reeding tool, 2 beads	.40
213	1/8 in.	Reeding tool, 3 beads	.60
214	1/8 in.	Reeding tool, 4 beads	.80
215	1/4 in.	Reeding tool, 5 beads	1.00
222	1/8 in	Reeding tool, 2 beads	.40
223	1/8 in	Reeding tool, 3 beads	.60
224	1/8 in.	Reeding tool, 4 beads	.80
225	1/8 in.	Reeding tool, 5 beads	1.00
232	1/4 in.	Reeding tool, 2 beads	.40
233	1/4 in.	Reeding tool, 3 beads	.60
234	1/4 in.	Reeding tool, 4 beads	.80
235	1/4 in	Reeding tool, 5 beads	1.00

SPECIAL BOTTOMS FOR "FORTY-FIVE" PLANE

In order to work hollows and rounds, or a nosing cutter in the No. 45 plane, it is necessary to substitute, for the sliding section, specially formed bottoms, which are called by the same name as the cutters they are designed to carry; that is: Hollows, rounds or nosing tools.

A hollow and its cutters will form a round on the moulding being worked. A round and its cutters will form a hollow. A nosing tool and its cutters will form what might be called an exaggerated round. It is very largely used for shaping the edges of stair treads. Hollows and rounds are made in four sizes and are usually sold in sets, a set comprising one hollow, one round and two cutters. The price of a nosing tool includes one cutter.

No. 6. Hollow and round, 1/2 in. cutters, work 3/4 in. circle .....per pair, **$2.80**

No. 8. Hollow and round, 5/8 in. cutters, work 1 in. circle .....per pair, **2.80**

No. 10. Hollow and round, 3/4 in. cutters, work 1¼ in. circle .....per pair, **3.00**

No. 12. Hollow and round, 1 in. cutters, work 1½ in. circle .....per pair, **3.00**

No. 5. Nosing tool, 1¼ in. cutters, work 1¼ in. circle.. .....each, **2.00**

SCREWDRIVERS

LEAD ALL

Round forged steel blade, polished; nickel plated ferrule, varnished cherry handle.

Blade length, in.	3	4	5	6	8
Weight per doz., lb.	1⅝	2	3½	3¾	6⅛
No. 44. Per doz.	**$2.75**	**3.00**	**3.25**	**3.50**	**4.50**

2 and 3 in., one dozen; balance half dozen in a box

SCREWDRIVER ASSORTMENTS

No. 42

Consists of 4 each of Little Wonder screwdrivers, 1¾, 2 and 3 in. blades, 3, 3¾ and 4¾ in. long over all. Mounted on attractive red and gold display card. Blades made of high grade tool steel, tempered and polished. Handles are hardwood, stained red. Long polished steel ferrules

No. 42. Weight per card 7 lb... .. ..per assortment, **$2.00**

One assortment in a box

No. 35

Consists of 4 each of Reliance screwdriver: 4, 5 and 6 in. blades, with blades of special steel tempered and polished. Heavy drawn reinforced steel ferrules with rivet through ferrule, blade and handle. Ferrule nickel plated and buffed. Fluted hardwood handles. Packed with display rack made of hardwood, mission finish, with label in white, violet and gold.

No. 35. Weight per assortment 4½ lb..per assortment, **$3.50**

One assortment in a box

BAILEY WOOD PLANES

ADJUSTABLE

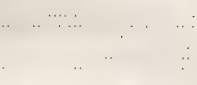
For rough outside work. The bottom, handle and knob are made from selected and well seasoned beech. The cutter is made of the finest quality English steel, tempered and ground by an improved process and is adjustable both endwise and sidewise. The frog is held in place by two machine screws which pass through the top iron and screw into two brass lugs. These lugs are screwed and securely pinned into the wood bottom.

SMOOTH

Nos.	22	24
Length, in.	8	9
Cutter, in.	1¾	2
Weight, lb.	2½	2⅞
Each	**$6.60**	**6.90**

HANDLED SMOOTH

No.	35
Length, in.	9
Cutter, in.	2
Weight, lb.	3¼
Each	**$8.10**



JACK AND FORE

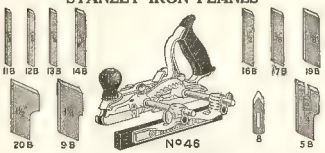
Nos.	26	28
Kind	Jack	Fore
Length, in.	15	18
Cutter, in.	2	2¼
Weight, lb	3¼	3½
Each	**$7.20**	**9.10**

JOINTER

Nos.	31	32
Length, in.	24	26
Cutter, in.	2⅛	2⅝
Weight, lb.	6½	7½
Each	**$9.70**	**10.50**

Above one in a box

STANLEY IRON PLANES



SKEW CUTTER COMBINATION

For plow, dado, fillister, matching and rabbet work; nickel plated, iron stock, rosewood handle and fence.

Skew cutters are the feature of this plane. It consists of a main stock carrying a spur, a depth gauge and a slitting cutter, a sliding section carrying a spur and forming an extra sole for the plane, and a fence (rosewood face) which can be set for either plow or fillister work.

No. 46. With rosewood fence and 12 cutters, one each plow and dado bits ⅛, 3/16, ¼, 5/16, ⅜, 7/16, ½ and 1¼ in.; fillister, 1½ in.; tonguing, ¼ in, and slitting cutter; length 10½ in., weight 5¾ lb.....each, **$23.50**

No. 47. Without rosewood fence; 7 cutters, one each dado, 5/16, ⅜, 7/16, ½, ⅝ and 1¼, and slitting cutter; length 10½ in., weight 3¾ lb.....each, **18.50**

One in a box

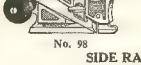
CARRIAGE MAKERS' RABBET PLANES

Bottom of best gray iron, japanned inside, polished bottom and sides, English steel cutters; tempered, ground and polished; rosewood handle and knob.

These planes are for the heavy framing required in mining work, for carriage or wagon building or any work of similar nature.

No. 10½. Adjustable, with smooth bottom; 2⅛ in. cutter; length 9 in., weight 3 lb.....each, **$12.70**

One in a box



No. 98

No. 99

SIDE RABBET PLANES

Nickel plated iron stock, rosewood knob

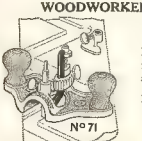
A reversible nose piece gives the tool a form whereby it will work up into corners when required.

No. 98. Right hand, length 4 in., cutter ⅞ in., weight ⅝ lb.....each, **$4.70**

No. 99. Left hand, length 4 in., cutter ⅞ in., weight ⅝ lb.....each, **4.70**

One in a box

WOODWORKERS' ROUTER PLANES



Nickel plated iron stock, beech knobs, with open throat; for surfacing the bottom of grooves parallel with the other work.

No. 71. Open throat, with ¼ and ⅜ in. steel bits; with throat attachment; length 7½ in., weight 2¾ lb.....each, **$9.70**

One in a box

STANLEY IRON PLANES

BELT MAKERS' PLANES

Japanned iron stock, polished bottom, steel cutter, hardwood handle; adapted for chamfering down the ends or laps of belts; has adjustable throat.

No. 11. Length 5¾ in., cutter 2¾ in., weight 3½ lb.....each, **$10.20**

One in a box

SCRAPER PLANES

Japanned iron stock, polished bottom and sides, steel cutter, rosewood handle; blade is adjustable endwise and for angle; can be locked in position desired.

No. 12. With 3 in. steel cutter, length 6¼ in., weight 3¾ lb.....each, **$10.70**

One in a box

Japanned iron stock, polished bottom and sides, steel cutter, rosewood handle and knob; blade is adjustable endwise and for angle; can be locked in position.

No. D12. With 3 in. adjustable blade; length 9 in., weight 4 lb.....each, **$10.20**

One in a box

PLANE HANDLES

No. 10

No. 12

Beechwood, for common bench planes

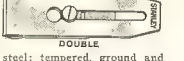
No. 10. For jack planes, weight per dozen 2½ lb.....per dozen, **$1.00**

No. 12. For fore or jointer planes; weight per dozen 3½ lb.....per dozen, **1.50**

One dozen in a box

PLANE IRONS

SINGLE

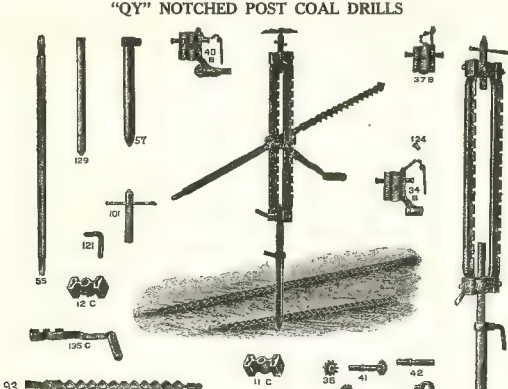


DOUBLE

Highest quality English steel; tempered, ground and honed; polished for bed rock and Bailey iron and wood planes.

Inches	For Plane	Single Each	Double Each	Weight Per Doz. Lbs. Single	Weight Per Doz. Lbs. Double
1¼	No. 1	**$0.45**	**$0.80**	2	3½
1⅝	Nos 2, 2C, 602, 602C	**.50**	**.85**	2½	4
1¾	Nos 3, 3C, 20, 20½, 21, 22, 23, 25 113, 603, 603C	**.55**	**.90**	2¾	5½
2	Nos. 4, 4C, 5, 5C, 9, 24, 26, 35 604, 604C, 605, 505C	**.60**	**.95**	3	5¾
2⅛	No. 27	**.65**	**1.00**	3½	6½
2¼	Nos 5½, 5½C, 27½, 605½, 605½C	**.70**	**1.10**	3¾	7
2⅜	Nos. 4½, 4½C, 6, 6C, 7, 7C, 11 28, 29, 30, 31, 36, 604½, 604½C, 606, 606C, 607, 607C	**.75**	**1.20**	4	7½
2⅝	Nos. 8, 8C, 32, 34, 37, 608, 608C	**.80**	**1.30**	5¼	8

"QY" NOTCHED POST COAL DRILLS



BEAL'S "QY" POST DRILLS

Complete with side and end gear. One each 2, 4 and 6 foot augers. Weight 70 lb..... each, **$38.00**
Complete with end gear only. One each 2, 4 and 6 foot augers. Weight 68 lb..... each, **35.00**
Can be furnished with No. 131C box and No. 134C gear in place of No. 40 and No. 37 if desired.

FULTON "QY" POST DRILLS

Complete with 2, 4 and 6 ft. augers, 18 inch post. Weight 60 lb . . . . . each, **$26.00**
Complete with 2, 4 and 6 ft. augers, 24 inch post. Weight 65 lb . . . . . each, **26.50**
Complete with 2, 4 and 6 ft. augers, 30 inch post. Weight 70 lb . . . . . each, **27.00**
Complete with 2, 4 and 6 ft. augers, 36 inch post. Weight 75 lb . . . . . each, **27.50**

EXTRA PARTS TO FIT BEAL'S "QY" POST DRILLS AND FULTON "QY" POST DRILLS

Nos.	Name of Part	Weight, Lb.	Each
11C	Casting for post (jack screw No. 101 fits in)	4	**$2.40**
12C	Casting for post (No. 129 fits in)	4½	**2.40**
16½	Ring for 1¼ inch boot	½	**.30**
29	Small spring key or shaft	⅛	**.10**
34	Thread box (alloy metal)	3½	**3.30**
35	Large gear wheel	1	**1.20**
36	Small gear wheel	¼	**.90**
37	End gear thread box	2½	**1.80**
37C	Square socket for augers	1	**.50**
40	Thread box, complete with No. 42 shaft and No. 36 small pinion	4½	**5.00**
41	Thread box shaft, with No. 36 small pinion, complete	½	**2.20**
42	Thread box shaft	¾	**1.10**

Nos.	Name of Part	Weight, Lb.	Each
55	Thread bar	9	**$0.55**
57	Small boot, 1¼ inch in diameter	3	**1.60**
90	Long or 6 foot auger	15	**5.40**
91	Medium or 4 foot auger	10	**3.60**
92	Short or 2 foot auger	5	**1.80**
93	Auger extension, 2 feet long	5	**1.90**
101	Jack screw	2¼	**1.20**
121	Tail set screw	½	**.40**
124	Set screw for No. 11C and 12C	⅛	**.20**
129	Small size stem that fits in No. 57	7½	**1.30**
135C	Crank	2½	**2.00**
138	Post, complete, as shown in cut	35	**9.24**
131C	End gear thread box	4	**2.00**
254	Ratchet crank	2¼	**5.00**

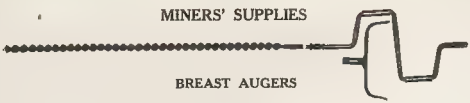
When ordering parts, please give both number and name

SLATE OR ROCK AUGERS

To Fit Beal's "QY" or Fulton "QY" Post Drills

Length, feet	2	4	6
Weight each, lb	5	10	15
Each	**$4.00**	**8.00**	**12.00**

MINERS' SUPPLIES



BREAST AUGERS

Double crank, detachable breast plate and socket, with feather edge bits.

	4	5	6
Length of bits, feet			
Weight per dozen, lb	234	246	258
No. 1. Diameter of twist, 1½ inches, per dozen,	**$60.00**	**62.50**	**65.00**
Add for 1¼ inch twist, per dozen,	**5.00**	**5.00**	**5.00**

Extra double cranks, per dozen,	**$12.50**
Extra breast plates, per dozen,	**10.00**
Extra couplings, per dozen,	**3.00**

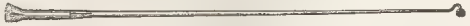
Extra Twists or Bits

Length, feet	4	5	6
Per dozen	**$3.50**	**4.50**	**5.50**

STEEL COMBINED TAMPERS AND SCRAPERS

Made of ⅝ inch round, with tamper on one end and scraper on other

Length 6 feet. Weight per dozen, 30 lb. . . . . per dozen, **$15.00**



COPPER TIPPED COMBINED TAMPERS AND SCRAPERS

Made of ⅝ inch round, with tamper on one end and scraper on other

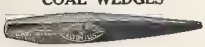
Length 6 feet. Weight per dozen, 58 lb. . . . . per dozen, **$35.50**

MINERS' NEEDLES

Length 6 feet, drawn gradually to the point, uniform in size with exact taper

Steel, black, oil finished, per dozen,	**$12.50**
Steel, polished and oiled, per dozen,	**14.00**
Copper, per dozen,	**21.50**

COAL WEDGES



Cast steel, regular pattern

Weight, lb.	2 to 5
Per pound	**$0.27**

COAL PICKS

Solid steel. Long ear. Straight back

Weight each, lb.	2	2¼	2½	2¾	3
Per dozen	**$12.50**	**12.50**	**12.50**	**12.50**	**12.50**

COAL PICKS

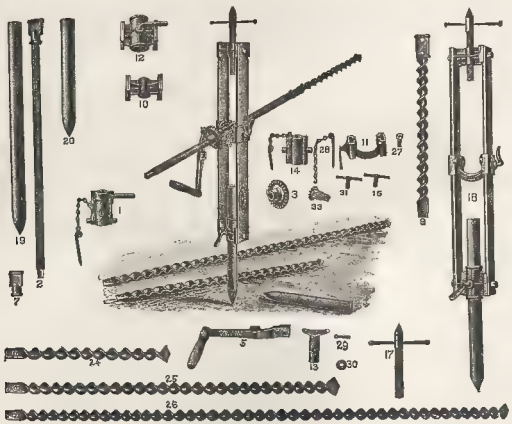
Solid steel. Short ear. Anchor back

Weight each, lb.	2	2¼	2½	2¾	3
Per dozen.	**$12.50**	**12.50**	**12.50**	**12.50**	**12.50**

Western pattern cutting pick, square in shape, for all ordinary hard cutting coals.

Weight each, lb.	2	2¼	2½	2¾	3
No. 19. Per dozen.	**$14.00**	**14.00**	**14.00**	**14.00**	**14.00**

ALTON POST COAL DRILLS



Alton Post Drill. Complete, with side and end gears and three augers. One each 2, 4 and 6 feet long. Weight each, complete, about 85 lb.....each, **$38.00**

Alton Post Drill. Complete with end gear only and three augers. One each 2, 4 and 6 feet long. Weight each, complete about 83 lb.....each, **35.00**

EXTRA PARTS FOR ALTON POST COAL DRILLS

No.	Name of Part	Weight, Lb.	Each
1	Thread box	2¼	$3.30
2	Thread bar	9	5.50
3	Large bevel wheel	2	1.30
5	Crank	2½	2.00
7	Auger socket	1	.50
9	Auger extension	4	1.90
10	Top post jack screw casting	2	2.40
11	Post slide, complete	3	2.50
12	Lower post end casting, complete	4	2.40
13	Sleeve for breast drill	1½	.80
14	End gear thread box (alloy)	3	1.80
15	Small jack screw for No. 11	¼	.30
17	Post jack screw	2¼	1.50
18	Post, complete	35	$9.24
19	Post pipe, long	5½	2.00
20	Post pipe, short	3	1.20
24	Short auger, 2 feet long	5	1.80
25	Medium auger, 4 feet long	10	3.60
26	Long auger, 6 feet long	15	5.40
27	Set screw for Nos. 10 and 12	⅛	.20
28	Steel pin and chain for thread box	⅛	.50
29	Spring key for crank	1/16	.10
30	Steel washer for crank pinion	1/16	.10
31	Tail screw for No. 12	¼	.40
33	Small bevel wheel long hub	1	.90

When ordering parts, please give both number and name

When Ordering Drills, Always Specify the Length of the Post Desired

SLATE OR ROCK AUGERS

To Fit Alton Post Drills

Length, feet	2	4	6
Weight each, lb.	5	10	15
Each	$4.00	8.00	12.00

PARTS FOR GUY'S DROPPER LAMPS

REFLECTORS

No. 28. Polished brass, 2½ inches deep, equipped with lock nut .....each, $0.25

No. 28SL. Polished brass, 2½ inches deep, equipped with lock nut and self lighter attachment.....each, .35

MISCELLANEOUS SUNDRIES FOR GUY'S DROPPER LAMPS

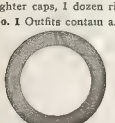
No. 30. Nickel plated reamer cases, extra long, two dozen size .....each, $0.05
No. 24. Tip reamers, 12 dozen in a package.....each, .05
No. 26. Tip reamers, 1 dozen in reamer case.....each, .05
No. 28. Tip reamers, 1 only in reamer case,.....each, .10
No. 20. Wire brush cleaners, 100 in a box.....each, .10
No. 63. Lava tips, 1 dozen in a box.....per dozen, .30
No. 53. Brass tips, lava center, 1 dozen in a box..each, .05
No. 75. Flints; 1 dozen in a box.....each, .05
No. 68. Felts for lamps; 1 dozen in a box.....each, .05
No. 64. Brass felt holders; 1 dozen in a box.....each, .05
No. 128. Extra bottoms, round knurled.....each, .20
No. 130. Extra bottoms, hexagon .....each, .20

GUY'S DROPPER REPAIR OUTFITS

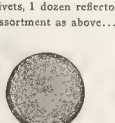
An assortment of lamp supplies most frequently called for by the miner; also the repair parts most liable to become lost or worn out, which require replacement. Conveniently arranged in strong, durable cardboard box with hinged cover.

No. 1 Outfit contains: 6 dozen gaskets, 2 dozen felts, 1 dozen each felt holders and screens, 12 dozen lava tips, 2 dozen reamer cases, 3 dozen reamers, 1 dozen tip cleaners, 6 dozen flints, ½ dozen lighters complete, 1 dozen water stoppers, 1 dozen hexagon nuts, 1 dozen springs, 1 dozen lighter caps, 1 dozen rivets, 1 dozen reflector nuts.

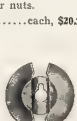
No. 1 Outfits contain assortment as above.....each, $20.70



RUBBER GASKETS



FELT PACKING



FELT HOLDERS

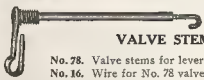
No. 60. Rubber gaskets .....each, $0.03
No. 62. Felt packing .....each, .03
No. 64. Felt holders .....each, .05

PARTS FOR JUSTRITE LAMPS

REFLECTORS

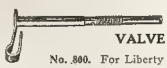
Lights the gas with a rub of the hand. Size 2½ inches, has lighter attached, is adjustable to fit around tip holder by means of tightening screw in collar.

No. 26. Brass .....each, $0.25
No. 27. Nickel plated .....each, .30
No. 172. Extra flints .....each, .05



VALVE STEMS

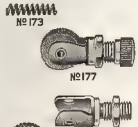
No. 78. Valve stems for lever feed lamps..each, $0.25
No. 16. Wire for No. 78 valve stem.....each, .03



VALVE STEMS

No. 800. For Liberty feed lamps, complete.....each, $0.25

PARTS FOR LIGHTER

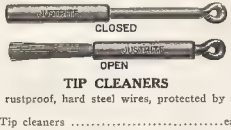


No. 172. Flints, each. $0.05
No. 173. Springs, each. ..... .03
No. 174. Caps, each. ..... .05
No. 175. Wheels, each. ..... .05
No. 176. Fork and nut, each..... .10
No. 182. Hexagon nut, each..... .02
No. 177. Lighter complete, each.. .10

LAVA TIPS

JEWEL METALS TIPS

No. 66. Lava tips with air holes.....each, $0.03
No. 28. Jewel metal tips; shell is made of brass with lava burner insert, cannot break or crack.....each, .05



TIP CLEANERS

Fifty rustproof, hard steel wires, protected by a sliding cover.

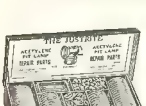
No. 37. Tip cleaners .....each, $0.10

TIP REAMERS

No. 145. One dozen in metal tube.....per tube, $0.65
No. 150. Empty cases, brass, nickel plated.....each, .05

REPAIR OUTFITS

FOR JUSTRITE MINERS' CARBIDE LAMPS



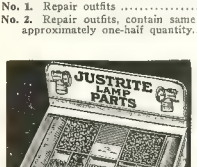
Contents of No. 1 Repair Outfits

6 dozen No. 60 gaskets
6 dozen No 62 felts
1 dozen No. 64 felt holders
3 dozen No 66 lava tips
3 dozen No. 28 metal tips
3 dozen No. 172 flints
1 dozen No. 173 springs
1 dozen No. 174 screw caps
1 dozen No. 182 hex. nuts
½ dozen No. 177 lighters complete
2 dozen No. 37 tip cleaners

These outfits are in a heavy cardboard box, covered with waterproof paper, reinforced corners, strong and durable.

No. 1. Repair outfits . . . . . each, **$6.75**

No. 2. Repair outfits, contain same articles as No. 1, approximately one-half quantity. . . . . each, **4.00**



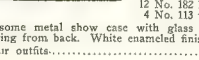
Contents of No. 3 Repair Outfits

100 No. 60 gaskets
100 No. 62 felts
12 No. 64 felt holders
144 No. 66 tips
100 No. 28 tips
24 No. 22 tip cleaners
48 No 37 tip cleaners
72 No. 16 wires
9 No. 78 valve stems
36 No. 145 reamers
12 No. 177 lighters
24 No. 172 flints
12 No. 173 springs
12 No. 174 screw caps
12 No. 176 forks and nuts
12 No. 181 water caps
12 No. 182 hex. nuts
4 No. 113 valve stems

In handsome metal show case with glass cover and drawer opening from back. White enameled finish.

No. 3. Repair outfits. . . . . each, **$25.00**

MATCH BOXES



No. 75. Round, seamless brass, nickel plated, 2⅛ x 1¾ inches . . . . . each, **$0.15**

POCKET CARBIDE CANS

Made of light steel, tin coated, ribbed, double seamed and sliding cover, air tight, concaved to fit the boot or hip pocket. Holds full day's supply.

No. 77. Capacity 10 oz. carbide. . . . . per dozen, **$1.80**

CARBIDE FLASKS

No. 23. Made of heavy tin, double seamed, strong and durable. Oval shape, size 6¼ x 2 x 3 in. Knurled screw cap. Capacity 1 lb. Large opening and empties freely, per doz., **$3.00**

CALCIUM CARBIDE

Always packed in blue and gray substantial sheet steel drums and cans. Each drum is equipped with a screw top which can be easily replaced in position, so that the carbide remaining in the drums will be thoroughly protected from air and moisture. Will keep indefinitely if protected from air and moisture

In Cans

In Drums

FOR MINERS' LAMPS

Is specially selected and perfectly adapted for use in lamps. Because of its high gas yield, special selection, uniform size, freedom from dust, and its uniform quality, is the most economical and satisfactory carbide for use in miners' lamps

Union Brand—First Quality

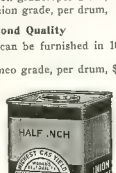
Miners' Lamp. 2 lb. cans, 24 cans to case, Union grade . . . . . per case, $. .
Miners' Lamp. 25 lb. drums, Union grade. . per drum, . . .
Miners' Lamp. 100 lb. drums, Union grade, per drum, ...

Cameo Brand—Second Quality

This is a medium grade and can be furnished in 100 lb drums.

Miners' Lamp. 100 lb. drums, Cameo grade, per drum, $ . . .

In 2 Lb. Cans



In 10 Lb. Cans

FOR AUTOMOBILE AND BICYCLE LAMPS

Half inch is specially selected and sized for use in bicycle lamps, motorcycle generators and other small pieces of portable acetylene apparatus

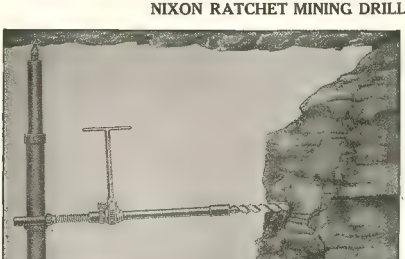
One inch is uniform in size and quality and is adapted for use in automobile generators and large automobile lamps

½ in., 2 lb. cans, 24 cans to case, Union grade. . per case, $. . . .
½ in., 10 lb. cans, 6 cans to case, Union grade. . per case, . . .
1 in., 10 lb. cans, 6 cans to case, Union grade. . . per case,

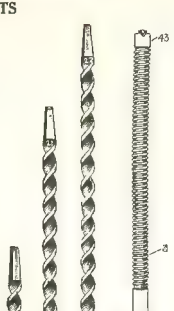
Electrolite—Second Quality

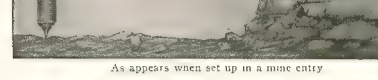
½ in., 10 lb. cans, 6 cans to case. . . . . per case, $. . . .

NIXON RATCHET MINING DRILLS AND PARTS



As appears when set up in a mine entry



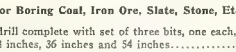


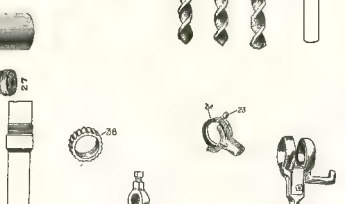
NIXON No. 1 RATCHET MINING DRILLS

For Boring Coal, Iron Ore, Slate, Stone, Etc.

One drill complete with set of three bits, one each, 18 inches, 36 inches and 54 inches.....**$70.00**

One man can handle and work this drill and in any close place he can go. The ratchets have 8 in. differentials in post set up. The post is extensible to double its shortest length.





EXTRA PARTS TO FIT NIXON'S MINING DRILLS

No.	Name of Part	Each
2	Wrench (not shown)	$ 0.60
5	Socket screws on barrel to receive bit	2.70
9	Steel feed nut, extra long bearing	6.50
10	Main screw or screw bar	13.50
12	Pawl in handle	.60
13	Bolt in handle, through spring and pawl	.60
14	Spring for pawls (2)	.60
20	18 in. bit	3.00
21	36 in. bit	5.50
22	54 in. bit	6.50
23	Feed ring set screw, for regulating speed	.60
24	Main stem gas pipe	5.50
25	Inside stem gas pipe	4.20
26	Main stem point	$ 1.30
27	Inside stem socket nut, large size	2.70
28	Inside stem socket screw, 1¼ in. steel	2.70
29	Regulating ring and set screw	1.30
30	Brace ring and set screw	1.30
33	Lever or handle, improved pattern	9.00
34	Feed ring, improved pattern	6.50
35	Feed ring pawl	.60
37	Dog, connecting drill shank and support	2.00
38	Main ratchet, screws on barrel	6.50
43	Chilled ferrule, protects threads on main screw	1.30
50	Barrel and socket (No. 5) in one piece	9.00

Supports, 5 feet or under, each..**$13.50** Supports longer than 5 feet will cost **$2.70** for each additional foot

MINERS' CARBIDE LAMPS

GUY'S DROPPER MINERS' CAP LAMPS

Made of heavy gauge sheet brass throughout. Equipped with Guy's patented water dropper, which is fitted with valve cleaner. If dropper becomes clogged, a few turns of the knurled thimble at end of dropper tube will open it. Has a 2¼ inch deep brass polished reflector intended for miners working in wet places or where the roof is low. The reflector is deep enough to protect the burner from water. Round wire hoop and clasp. Carbide container has two knurled bands which enable miner to get a firm grip when unscrewing the container from the water tank. Self lighter attached to reflector. Weight each, about 5 ounces.

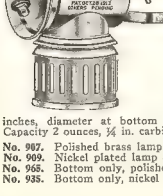
No. 28. Polished brass .....each, **$1.00**
No. 280. Nickel plated .....each, **1.50**

JUSTRITE MINERS' CAP LAMPS

Are made in two parts, water reservoir and carbide container, drawn from seamless brass. Attached parts are riveted and soldered inside. The reflector is polished and is part of the lamp and cannot get loose or break off. The water cap has water chamber to prevent leakage, fits snug and is easy to open and close. Hook fits all caps. Clasp is made of spring brass, holds lamp secure to cap and will fit all standard cap shields.

Equipped with lighter attachment, round hook and clasp, lever valve feed, No. 66 lava tip and 2¼ inch reflector. Height of lamp 4 inches; diameter of bottom 2 inches; water tank is 1¾ inches in diameter and 2¾ inches long; candlepower 16.7; capacity 2 ounces ¼ inch carbide; weight 5 ounces.

No. 407. Polished brass lamp only.....each, **$1.10**
No. 85. Polished brass, with No. 77 carbide can..each, **1.25**



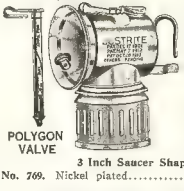
With Liberty Feed and New Reinforced Bottom

The Liberty valve is designed to give a liberal flow of water, because the water flows through the inside of the valve stem, instead of around a restricting wire or rod. No wire or rod is used in the Liberty valve water tube, to interfere with the flow of water to the carbide. Equipped with lighter attachment, round hook and clasp, No. 66 lava tip and 2¼ inch reflector. Height of lamp 4 inches, diameter at bottom 2 inches. Candlepower 16.7. Capacity 2 ounces, ¼ in. carbide. Weight 5 ounces.

No. 907. Polished brass lamp only.....each, **$1.25**
No. 909. Nickel plated lamp only.....each, **1.50**
No. 965. Bottom only, polished brass.....each, **.25**
No. 935. Bottom only, nickel plated.....each, **.30**

MINERS' CARBIDE LAMPS

JUSTRITE MINERS' CAP LAMPS



Polygon feed; lighter attachment; round hook. Standard Justrite shape with permanent reflector, new metal water door and reinforced bottom.

2½ Inch Concave Reflector

No. 707. Polished brass .....each, **$1.10**
No. 709. Nickel plated. .....each, **$1.25**

3 Inch Saucer Shape Reflector

No. 769. Nickel plated.....each, **$1.30**

VICTOR CARBIDE MINERS' LAMPS

With regulating valve water feed, detachable reflector and brace with sparker. Round hook.

2⅝ Inch Reflector

No. 661. Polished brass .....each, **$1.10**
No. 663. Nickel plated ....each, **1.25**

JUSTRITE SUPERINTENDENTS' LAMPS

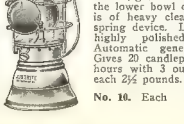
With Liberty Feed

Drawn from seamless brass. Attached parts are riveted. Deep, concaved reflector, equipped with lighter attachment, round hook, folding handles, pocket carbide can and No. 28 jewel tip. Full nickel plated.

Nos.	95	100
Height, in.	4¼	3¼
Reflector, in.	3	2⅝
Candle power	18	16.7
Capacity, oz.	3	2
Burns hours	4½	3
Weight, oz.	7	6
Each	$2.00	1.50

CARBIDE LANTERNS

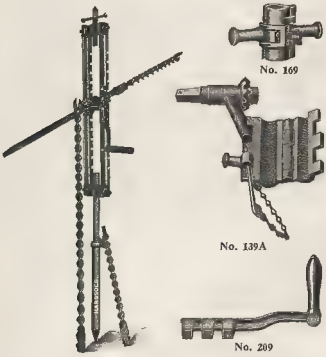
JUSTRITE



Constructed of brass throughout and for operating purposes is composed of but two parts; the upper frame with handle and wire guards enclosing the glass globe, burner, gas feed and carbide container; and the lower bowl or water reservoir. Globe is of heavy clear glass held in place by spring device. Lamp is nickel plated and highly polished. Removable reflector. Automatic generator. Height 9 inches. Gives 20 candlepower light. Burns 5 to 6 hours with 3 ounces of carbide. Weight each 2½ pounds. Packed in metal case.

No. 10. Each **$6.00**

POST COAL DRILLS



HARDSOCG "A" STEEL

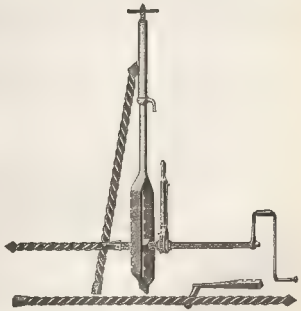
End or Side Gear

"A" Post Drill. End gear, with one each 2, 4 and 6 foot augers. Weight 76 lb.....each, **$24.00**

EXTRA PARTS FOR "A" POST DRILLS

No.	Name of Part	Each
169	New end gear box	$1.60
221	Small cog	.90
220	Large cog	1.20
222	New spiral auger socket	.80
225	High carbon steel thread bar end gear; no slot	3.40
178	Same; slotted side gear	4.00
176	2-foot auger	1.60
177	4-foot auger	3.20
177½	6-foot auger	4.80
192	2-foot auger extension	1.80
209	New frictionless crank	1.30
136A	Side gear boxing	2.50
139A	Gear complete, less No. 220 large cog	3.80
	Post complete	7.80

ROCK DRILLING MACHINES



HARDSOCG'S RATCHET

Specially designed to drill rock, fire clay and other hard substances. Very efficient, strong and durable.

Illustration shows rock machines complete, with 2, 4 and 6 foot 1¼ x ⅝ square edge rock augers. Single and double cranks and ratchet.

Rock Machine. Complete with one each 2, 4 and 6 foot augers Weight each about 40 lb.. ..each, **$49.00**

Price above includes single and double cranks and ratchet

EXTRA PARTS FOR ROCK DRILLING MACHINE

No.	Name of Part	Each
	2-foot rock augers, 1¼ x ⅝, square edge	$3.20
	4-foot rock augers, 1¼ x ⅝, square edge	6.40
	6-foot rock augers, 1¼ x ⅝, square edge	9.60
55	Thread bar, single slot; 8, 10, 12 or 14 threads per inch	4.30
56	Thread bar, double slot; 8, 10, 12 or 14 threads per inch	5.00
37B	Boxing	1.80
254	Ratchet	4.30
255	Double crank	2.80
135C	Single crank	1.50
101	Jack screw	1.00
17	Ring for boot	.30
	Cog for ratchet	.90
	Pawl for ratchet	.30
	Spring for ratchet	.30
	Boot complete, 2 feet long	4.00
	Boot complete, 2½ feet long	4.50
	Boot complete, 3 feet long	5.00

Above machine made with posts adjustable from 5 to 7 feet.

When ordering, give height of adjustable post desired, number of threads per inch on thread bar and length of augers wanted.

HANDLES

LONG BENT MANURE FORK

With Strap Ferrule and Cap

X Grade. Selected ash, with strap ferrule and cap attached. Length 4½ feet. Weight per dozen 25 lb. .....per dozen, **$ 7.70**

XX Grade. Extra selected ash, with strap ferrule and cap attached. Length 4½ feet. Weight per dozen, 25 lb.....per dozen, **15.00**

LONG BENT MANURE FORK

With Plain Ferrule and Cap

X Grade. Selected ash, with plain ferrule and cap attached. Length 4½ feet. Weight per dozen 25 lb. .....per dozen, **$11.50**

STRAIGHT HAY FORK

No. 1 Grade. Seasoned ash, chucked and bored. Length 6 feet. Weight per dozen, 25 lb.....per dozen, **$9.50**

GOOSENECK HOE

No. 1 Grade. Seasoned ash, chucked and bored. Length 5 feet. Weight per dozen, 16 lb.....per dozen, **$5.00**

PLANTERS' EYE HOE

No. 1 Grade. Seasoned ash. Length 4½ feet. Weight per dozen, 17 lb.....per dozen, **$8.00**

CRONK'S HOE AND DIGEZY MATTOCK

No. X Grade. Selected ash. Length 5 feet. Weight, per dozen, 16 lb.....per dozen, **$11.00**

GARDEN RAKE

No. 1 Grade. Seasoned ash, chucked and bored. Length 6 feet. Weight per dozen, 25 lb.....per dozen, **$6.70**

FERRULES AND CAPS

Plain Ferrules. For spading, manure and hay forks. Weight per dozen, 2 lb.....per dozen, **$1.80**

Strap Ferrules. For spading, manure and hay forks. Weight per dozen, 4 lb.....per dozen, **4.50**

Caps. For use with plain or strap ferrules. Weight per dozen, 2½ lb.....per dozen, **.90**

D TOPS

No. D. All iron malleable D tops, iron grip. Weight per dozen, 8 lb..... ..... per dozen, **$3.00**

HANDLES

PEAVY AND CANT HOOK

Made of selected stock and nicely finished

Hickory Peavy Handles

Size 2½ in. x 4½ ft. Weight per dozen, 60 lb. per dozen, **$20.00**
Size 2¾ in. x 4½ ft. Weight per dozen, 65 lb. per dozen, **24.00**
Size 3 in. x 4½ ft. Weight per dozen, 70 lb. per dozen, **30.00**

Ironwood Peavy Handles

Size 2½ in. x 4½ ft. Weight per dozen, 55 lb. per dozen, **$20.00**

Hickory Cant Hook Handles

Size 2½ in. x 4½ ft. Weight per dozen, 60 lb. per dozen, **$20.00**
Size 2¾ in. x 4½ ft. Weight per dozen, 65 lb. per dozen, **24.00**

CAR MOVERS

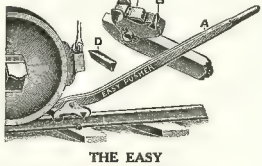
ATLAS

This compound lever arrangement acts on the car wheel so far from its contact with the rail that the moving force is utilized to roll it forward, instead of wasted in an effort to raise it from the track.

The metal parts are malleable iron and steel, and are guaranteed. The handle is of the best selected hard or sugar maple. It can be turned and all four corners used. One extra spur with each mover.

Will move a car farther at a stroke, and with less effort than any other car mover. Gets under the lowest brakes.

Atlas Car Mover. Fine tool steel spur, with extra spur. Weight about 18 lb.....each, **$11.50**
Extra Spurs.....each, **.60**



THE EASY

The "Easy" is of best material. The bar is steel; the shoe malleable; the bit is the finest tool steel; also the spring.

The heel has lugs extending downward on both sides of the rail so as to hold it firmly in position and prevents its slipping sideways. The triangular bit or steel cuts into the rail when pressure is applied and prevents slipping backward even though the rail is icy, greasy or wet.

This bit can be inverted. Each one has three sharpened edges. When the pressure is released, the steel spring lifts the steel bit from the rail, thus preventing it from being dulled by sliding over the rail when following the wheel. Two triangular steels with each pusher.

Easy Car Mover. Length 5½ feet. Weight each 20 lb. .....each, **$9.00**
Extra Steel Bits..... .... **.50**

COUNTER PLATFORM SCALES

BUFFALO UNION

With single brass beam, seamless tin scoop and self aligning bearings.

No. 768. Capacity in scoop 32 pounds by ½ ounce; on platform 245 pounds by ¼ pound; platform 10 x 13¾ inches; weight 60 pounds.....each, **$18.00**

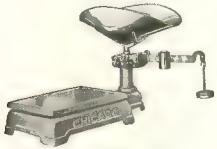
One in a box

BUFFALO UNION

With double brass beam, seamless tin scoop and self aligning bearings.

No. 772. Capacity in scoop 32 pounds by ½ ounce; on platform 245 pounds by ¼ pound; platform 10 x 13¾ inches; weight 60 pounds.....each, **$20.00**

One in a box



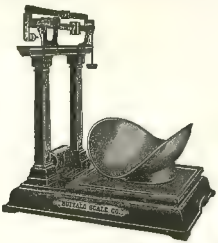
CHEROKEE UNION

With single brass beam, sliding poise and heavy tin scoop; bearings are of Sheffield tool steel, carefully tempered to the proper degree of hardness; corner loops are of double suspension pattern which give the platform easy motion and prevent friction and binding; guaranteed to comply with all state laws governing weights and measures; handsomely finished in black enamel with gold and red striping.

No. 808. Capacity in scoop 30 pounds by ½ ounce; on platform 240 pounds by ¼ pound; platform 10½ x 13½ inches; weight 60 pounds.....each, **$16.50**

One in a box

COUNTER PLATFORM SCALES



NIAGARA COUNTER SCALE

With Self-Aligning Bearings

The Niagara Counter Scale is a handsome double pillar, double beam scale; exceptionally sensitive and durable. It has a capacity of 255 pounds by 1 ounce; platform 12⅜ x 13¾ inches with marble slab or tin or brass scoop. The beam is nickel plated.

No. 797. Capacity 1 ounce to 255 pounds; large tin scoop; weight 85 pounds.....each, **$40.00**

One in a box

AUTOMATIC COMPUTING SCALES

INDEPENDENT

The Independent No. 6 is the highest type of an automatic computing scale, very simple in construction and neat in appearance. It will stand the most critical examination and is covered by an absolutely reliable guarantee bond. All bearings are finest obtainable agate and pivots of highest grade carbonized steel. Vibrations of the computing chart may be regulated to suit requirements of operator by turning adjusting nut on top of dash pot; has capacity of 25 pounds, with price range from 4 to 40 cents, taking in six different fractions; computes to the full capacity without mental additions.

No. 6. Enameled solid turquoise blue with nickel plated rust proof trimmings; French plate glass platform 14½ inches diameter, ⅝ inch thick; height over all 34 inches; drum 11 inches diameter; counter space 18 x 22 inches; weight 140 pounds... .....each, **$150.00**

One in a box

FAMILY SCALES

Black enameled cold rolled steel case, fancy ovaled, white enameled slanting dial; figures and lines in black, double upright supports, tin scoop heavily wired; brass adjusting screw.

No. 1070. With scoop; capacity 24 pounds by ounces
Weight 3½ pounds.....each, **$4.50**

Black enameled cold rolled steel case, fancy ovaled, white enameled slanting dial; figures and lines in black, double upright support, steel platform, ring collar, tin scoop heavily wired; brass adjusting screw.

No. 1050. With scoop; capacity 24 pounds by ounces.
Weight 5 pounds.....each, **$4.50**

Blue enameled on one piece cold rolled drawn steel case and decorated in gilt; tile platform on removable steel post resting on mechanism; special hand made oil tempered springs, slanting white dial with black figures and markings, glass sash; indicator made of extra heavy spring steel and tapered to a needle point for quick reading.

No. 303. Without scoop; capacity 24 pounds by ounces; white tile platform 6x6 inches; weight 6 pounds
.....each, **$4.50**

One in a box

Blue enameled on one piece cold rolled drawn steel case and decorated in gilt; tin scoop, tile platform on removable steel post resting on mechanism; special hand made oil tempered springs, slanting white dial with black figures and markings; glass sash; indicator made of extra heavy spring steel and tapered to needle point for quick reading.

No. 502. With tin scoop; capacity 5 pounds by ½ ounce; white tile platform 6x6 inches; weight 5½ pounds .....each, **$4.50**

One in a box

IDEAL POSTAL SCALES

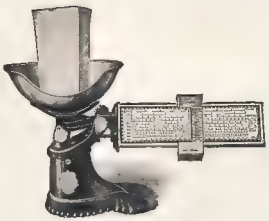
Instantly indicates in plain figures the exact cost of postage in cents on all classes of mail matter to all possessions of the United States, Canada, Mexico, Cuba, etc.

Substantially built of the best cold rolled steel, and beautifully finished in black enamel

Ideal. Capacity 2 pounds, graduated by ½ ounce; computes 2 cents per ounce for United States letters, 1 cent per ounce for merchandise, 1 cent per two ounces for printed matter, 1 cent per four ounces for newspapers; also foreign postage. Height 6 inches; width 4 inches; length 6½ inches, weight 16 ounces .....each, **$4.00**

One in a box

COMPUTING CANDY SCALES



PELOUZE

Shows the cost in cents of candy or any other merchandise from twenty cents to one dollar per pound; also gives accurate weight by one half ounce up to two pounds; complies with requirements of city sealers

Superb. Capacity 2 pounds by ½ ounce; adjustable beam can be turned to any angle; nickel plated scoop and mountings; weight 5¼ pounds.....each, **$10.50**

One in a box

EVEN BALANCE SCALES

BUFFALO

Trip Scale with Scoop and Side Beam

Bright vermilion finish, with weights and tin scoop

No.	Capacity	Weight, Each	Each
580	¼ ounce to 6 pounds	20 pounds.....	**$18.00**
584	¼ ounce to 16 pounds	65 pounds.....	**25.00**

One in a box

REACH CATCHERS' MASKS

No. 6W

No. SL

PROFESSIONAL MODEL — **SPITTER**

No. 6W. Professional model, best tempered steel wire, double frame construction, with spitter and open vision features; sides extended to protect ears; adjustable pads laced to mask, adjustable head straps, weight 36 ounces.....each, **$12.00**

No. SL. Spitter, heavy tempered steel wire, reinforced joints, open vision, extended sides, adjustable laced pads and adjustable head straps, weight 32 ounces. .....each, **$10.00**

No. 30S

No. XX

ASSOCIATION MODEL — **AMATEUR MODEL**

No. 30S. Association model, extra strength steel wire, welded joints, black enameled finish, open vision, removable sun shade, adjustable pads and head straps, weight 24 ounces.....each, **$7.00**

No. XX. Amateur model, black enameled steel wire, leather face and chin pads, adjustable head straps, weight 14 ounces.....each, **3.00**

All above, one in a box

CATCHERS' BODY PROTECTORS

Reach Sullivan Model

Made of khaki canvas, thoroughly padded, leather bound. Padded extension over shoulders. Adjustable straps.

No. SP. Laced edge, to permit adjustment of padding, professional style, weight 39 ounces.....each, **$15.00**

No. S4. Same as above, except without laced edge, weight 28 ounces..each, **8.00**

One in a box

CATCHERS' LEG GUARDS

Professional Model

Moulded fiber knee caps, lined with white felt.

Shin pieces, made of heavy white canvas, with padded ribs.

Reinforced with leather at bottom and over ankle.

No. CG. Per pair..... .....**$10.00**

*BASEBALL UNIFORMS

ATHLE-TEXTURE

Made of the highest grades of baseball flannels, thoroughly shrunk before cutting; hand tailored to individual measurements. Complete uniforms consist of shirt, pants, cap, belt and hose.

SHIRT STYLES

Style SB

Style SN

Style SK

Style SL

Style SO

Style SC

CAP STYLES

Cincinnati Style

Boston Style

Philadelphia Style

Chicago Style

NOTE—Special uniform catalog, showing actual samples of various grades and colors of cloth; also styles of uniforms. Furnished upon request.

Prices on application.

*Not carried in stock; will ship from factory.

LAWN TENNIS SUPPLIES

WRIGHT & DITSON TENNIS RACKETS

Davis Cup

Champion

Columbia

Davis Cup. Very popular with all players; oval in shape, with dogwood reinforcement and concave throat; especially reinforced at shoulder, double center, stringing special style, 5 and 5¼ inch handle, weights 13, 13¾, 14 and 14½ ounces.....each, **$12.50**

Champion. Oval shape, strung with good quality gut, extra center strings, shoulders reinforced, beveled frame, light cherry throat; a very practical racket for a medium price; made in light, medium and heavy weights .....each, **6.00**

Columbia. Extra wide head, of practical shape; special stringing of selected gut, frame of well seasoned ash; made in light, medium and heavy weights .....each, **5.00**

All above, one in a paper bag

The Park

Surprise

Star

The Park. Oval frame, made of selected white ash, mahogany throat; strung with good quality gut, extra strings in center; made in light, medium and heavy weights .....each, **$4.00**

Surprise. Designed for the younger players; practical in every way; made with carefully selected materials; in light, medium and heavy weights....each, **2.50**

Star. Especially adaptable for beginners in shape and playing qualities; head is medium in size, and the racket is light in weight and suitable for children .....each, **2.00**

All above, one in a paper bag

LAWN TENNIS SUPPLIES

TENNIS BALLS

Adopted by the U. S. L. T. A. as the ball to be used in the national championships. Made in the patented two piece style, without plugs and overlapping seams. Rubber is of uniform thickness throughout, and gives a true and perfect flight. Cover made of best grade of felt, without stitches or irregular seams, to impair perfect flight on hard or grass courts.

Champion lawn tennis balls.....per dozen, **$7.20**

One dozen in a box

RACKET CASES

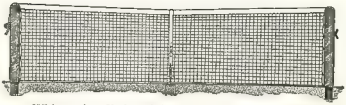
No. 5

No. 5P

Fine quality waterproof material. Protects the gut from dampness, and made large enough to contain racket with large handle.

No. 5. Without pocket ..... each, **$1.75**
No. 5P. With pocket for three balls.....each, **2.00**

LAWN TENNIS NETS



White twine, 21 thread, bound with heavy 8 ounce duck; heavy, loose top rope for fastening to post.
No. 160. Newport; 42 feet for double courts....each, **$12.00**
Weight about 35½ pounds

Bound at top with drilling; length for double courts.
No. 109B...42 feet, 15 thread .....each, **$7.50**
Weight about 3 pounds

TENNIS COURT MARKERS

For dry marking on dirt or grass courts. Uses marble dust, air slacked lime, plaster of paris or ground plaster.
No. 0. Weight 2 pounds.....each, **$2.25**

TENNIS COURT MARKING TAPES

Tapes for Marking Out Courts

Adapted for clay, cinder or dirt double courts; strong, compact and quickly set up.
No. 20. Complete with 200 staples and 14 pins.....each, **$15.00**
Weight per set about 7½ pounds

STEAM WHISTLES

Brass Bells

Fig. D1116
Single Tone Without Valve Iron Base

Fig. D1117
Single Tone With Valve Brass Base

Fig. D1118
Chime With Valve Brass Base

Diam. of Bell Inches	Fig. D1116 Each	Fig. D1117 Each	Fig. D1118 Each	Pipe Connection, Inches
1	$.....	3.10	.....	¼
1¼	.....	3.75	.....	¼
1½	.....	4.00	7.00	⅜
2	.....	5.50	10.00	½
2½	.....	7.40	13.00	¾
3	5.50	8.50	16.00	¾
3½	7.25	13.00	22.00	1
4	10.00	16.50	28.00	1¼
5	16.00	27.50	44.00	1½
6	23.00	37.50	60.00	1½

WHISTLE VALVES

For Steam Pressure Up to 200 Pounds

Brass body, screwed ends. Lever adjustable to any position. Valve seat can be reground when worn.

Size, Inches	Each
¼	$ 2.00
⅜	2.00
½	2.50
¾	3.00
1	4.40
1¼	5.60
1½	7.00
2	14.00

Fig. D1119

BLAKESLEE JET PUMPS

Fig. D1121

MODEL A

All parts are interchangeable. Freezing does not injure the pump, as it is self draining. Has no valves, cannot wear out. Pumps sandy or dirty water equally well. Entirely independent of engine. Very simple. Operates by a relatively small jet of steam entering the pump body and expanding its energy upwards. This pump cannot be successfully operated by gas or air. It is a steam pump, which, rightly operated, does its work effectively and without failure.

Size of Pump Inches	Each	Suction Pipe Inches	Discharge Pipe Inches	Steam Pipe Inches	Capacity Per Minute Gallons	Weight Pounds
¾	$ 8.00	¾	¾	¾	8	4
1	10.00	1	¾	½	15	6
1¼	12.00	1¼	1	½	20	8
1½	14.00	1½	1¼	¾	30	12
2	16.00	2	1½	¾	40	16
2½	20.00	2½	2	1	50	24
3	24.00	3	2½	1	60	33
4	70.00	4	3	2	250	60

Price List of Parts of Blakeslee Jet Pumps

Model A

	Size, Inches						
	½ Each	¾ Each	1 Each	1¼ Each	1½ Each	2 Each	2½ Each	3 Each
Nuts, iron	...	...	...	$0.50	.50	.60	.80	.90
Nuts, brass	$0.50	.50	.50	.75	.75	1.00	1.50	1.50
Nipples, iron	.25	.25	.25	.35	.35	.60	.75	1.00
Nipples, brass	.50	.60	.75	.80	1.50	1.75	2.20	2.50
Combining tubes, brass	...	.75	.75	.75	1.00	1.00	1.50	1.50
Steam tubes, brass	...	.25	.50	.50	.60	.60	.75	.75
Bodies, iron	...	1.50	2.00	2.20	2.50	2.80	3.00	3.50

"XL-96" IMPROVED EJECTOR, SIPHON OR STEAM JET PUMP

Lifts 22 to 25 feet. Elevates 25 to 125 feet, 30 to 100 pounds pressure, no lift.

Fig. D1120

Nos.	Each All Brass	Each Iron Body Brass Jet	Pipe Connection Steam	Pipe Connection Suction and Delivery	Weight Each Pounds
1	$ 8.00	.....	⅜	½	1
2	10.00	.....	½	¾	1¾
3	15.00	.....	¾	1	2¼
4	20.00	.....	1	1¼	3⅛
5	25.00	20.00	1	1½	5¼
6	35.00	27.50	1¼	2	8½
* 7	50.00	40.00	1½	2½	13¾
* 8	70.00	50.00	2	3	27
* 9	105.00	70.00	2	3½	37
*10	145.00	95.00	2½	4	44

*Not carried in stock; will ship from factory.

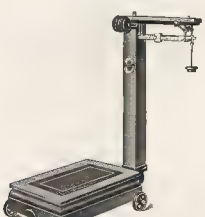
Capacity Per Hour, Gallons

Nos.	Steam Pressure, Pounds 40 to 65 — 3 Foot Lift	25 to 40 or 65 to 100 — 3 Foot Lift	40 to 65 — 50 Foot Elevation	40 to 65 — 25 Foot
1	240	235	120	180
2	500	450	250	375
3	840	700	420	625
4	1,350	1,300	650	950
5	1,950	1,850	975	1,450
6	3,500	3,000	1,750	2,600
7	5,700	4,350	2,500	3,750
8	9,500	8,150	4,750	7,200
9	13,500	12,400	6,800	10,200
10	18,400	17,100	9,200	13,800

Vertical Lift

Nos.	Feet 40 to 75 Pounds	Feet 25 to 40 75 to 100 Pounds	Nos.	Feet 40 to 75 Pounds	Feet 25 to 40 75 to 100 Pounds
1	23	20	6	25	22
2	25	22	7	25	22
3	25	22	8	25	22
4	25	22	9	25	22
5	25	22	10	25	22

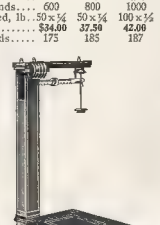
PORTABLE PLATFORM SCALES



CHEROKEE

With exposed wheels that run on steel axles that run clear through under scale frame; main frame platform made of smooth gray iron, finished in black japan; wood parts of choice selected stock, well finished and striped in gilt; solid brass single beam, graduated and with square sliding poise; both milled and highly polished; beam and lever pivots best tempered tool steel drawn to a knife edge and supported in hardened self adjusting bearing loops, pivotally secured in base frame of scale; platform is supported on levers by hardened self adjusting bearing feet and held in alignment with lever pivots by the check rod system. With sealed U. S. weights.

Nos.	108	109	*110	*111	*112
Capacity, pounds	600	800	1000	1200	1500
Beam graduated, lb.	50 x ¼	50 x ¼	100 x ½	100 x ½	100 x ½
Each	$34.00	37.50	42.00	48.00	55.00
Weight, pounds	175	185	187	225	250



CYCLO BALL BEARING

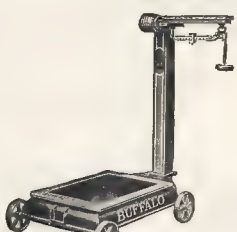
With exposed wheels; two swivel ball bearing wheels at beam end and two stationary wheels at rear end of frame, with steel axle that runs clear through under frame; main frame and levers are made of smooth gray iron, finished in black japan; wood parts of choicest select stock, striped in gilt; single solid brass beam; crescent shape sliding poise, highly polished; hardened self adjusting bearing loops; best tool steel hardened pivots, tempered and ground to a knife edge; with sealed U. S. weights.

Nos.	87	88	*89	*90
Capacity, pounds	600	800	1000	1200
Beam graduated, pounds	50 x ¼	50 x ¼	100 x ½	100 x ½
Each	$36.25	38.75	44.00	52.00
Weight, pounds	145	165	175	185

One in a case

*Not carried in stock; will ship from factory.

PORTABLE PLATFORM SCALES



BUFFALO

With exposed wheels supported on steel axles that run clear through under scale frame; main frame made of best gray iron, finished in black japan; wood parts of choice select stock, equipped with self aligning bearings, V shaped and retain their positions on their pivots, oscillation allowing full length contact between the two; single solid brass beam, sliding poise, highly polished; with sealed U. S. weights.

Nos.	1202	1205	*1210	*1212	*1214
Capacity, pounds	500	1000	1500	2000	2500
Beam graduated, lb.	50 x ¼	100 x ½	100 x ½	100 x ½	100 x ½
Platform, inches	16 x 25	17 x 26	21 x 30	24 x 33	24 x 33
Each	$41.25	53.75	75.00	100.00	112.50
Weight, pounds	210	230	420	496	496

One in a case

WHEELBARROW PLATFORM SCALES

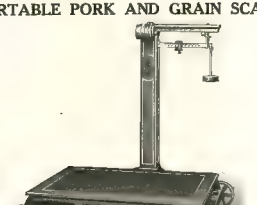
Adapted for weighing wheelbarrow loads of coal, etc. Made entirely of best gray iron, finished in black japan, equipped with self aligning bearings, V-shaped and retain their positions on their pivots; oscillation allowing full length contact between the two; single solid brass beam, sliding poise, highly polished; with sealed U. S. weights, and two wooden inclines; without wheels.

Nos.	*1451	*1455
Capacity, pounds	1000	2000
Beam graduated, pounds	100 x ½	100 x ½
Platform, inches	42 x 30	44 x 35
Each	$118.75	150.00
Weight, pounds	700	845

One in a case

*Not carried in stock; will ship from factory.

*PORTABLE PORK AND GRAIN SCALES



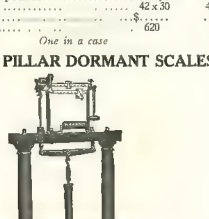
BUFFALO

With exposed wheels supported on steel axles that run clear through under scale frame, main frame and platform of best gray iron finished in black japan; wood parts of choice selected stock equipped with self aligning V shaped bearings and retain their position on their pivots; oscillation allowing full length contact between the two; single solid brass beam; sliding poise, highly polished, with sealed U. S. weights.

Nos.	1442	1448
Capacity, pounds	1000	2000
Beam graduated, pounds	100 x ½	100 x ½
Platform, inches	42 x 30	44 x 35
Each	$.....	.....
Weight, pounds	620	680

One in a case

*SHORT PILLAR DORMANT SCALES



With two short iron pillars; hardwood shelf and double brass beam, two sliding poises and weights; levers are hung from a solid iron frame which caps the top of box; upper beam marked 100 pounds by ½ pound; lower bar 200 pounds by 1 pound; self aligning V shaped bearings which retain their positions on their pivots, oscillation allowing full length contact between the two.

Nos.	1735	1736	1737
Capacity, pounds	2500	3500	3500
Platform, inches	46 x 37	42 x 44	42 x 44
Platform to pillars, inches	11½	24	12
Each	$.....	.....	.....
Weight, pounds	750	950	1000
Nos.	**1738**	**1739**	**1741**
Capacity, pounds	4000	5000	6000
Platform, inches	55 x 49	50 x 48	60 x 54
Platform to pillars, inches	15	23	13
Each	$.....	.....	.....
Weight, pounds	1350	1750	2020

Prices on application

*Not carried in stock; will ship from factory.

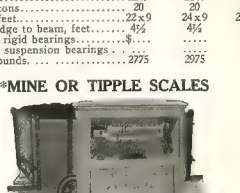
MOTOR TRUCK SCALES

BUFFALO

Designed and built according to the construction used in railroad scales, especially adapted for weighing the heavier vehicles and motor trucks where the load is concentrated on the rear axle. A demand for heavier construction in motor truck scales is that the motor truck rear axle sustains 75 to 95 per cent of the load where each wheel of the wagon sustains 25 per cent of the load, each axle carries 50 per cent. A motor truck scale must be double the strength of a wagon scale of the same capacity; scale includes mechanism with compound beam and short pillar outfit or beam box, all lumber, structural steel; foundation, including bolts not furnished unless otherwise quoted.

Nos.	2238	2243	2244	2245
Capacity, tons	10	15	15	20
Platform, feet	16 x 8	18 x 9	20 x 9	20 x 9
Platform edge to beam rod, feet	3½	3½	3½	4½
Each, with rigid bearings	$.....	.....	.....	.....
Each, with suspension bearings				.....
Weight, pounds	2300	2575	2675	2738
Nos.	**2247**	**2248**		**2249**
Capacity, tons	20	20		30
Platform, feet	22 x 9	24 x 9		28 x 10
Platform edge to beam, feet	4½	4½		4½
Each, with rigid bearings	$.....	.....		.....
Each, with suspension bearings				.....
Weight, pounds	2775	2975		3200

*MINE OR TIPPLE SCALES



STANDARD

Designed for weighing one small car of coal or ore at the mines, also in warehouses in weighing materials; tracks of narrow gauge are laid on platform to suit requirements; beam graduated 500 x 2 pounds on each bar for mine or tipple service; 250 x 1 pound on upper and 500 x 2 pounds on lower bar for factories when so ordered. Lumber and foundation not furnished.

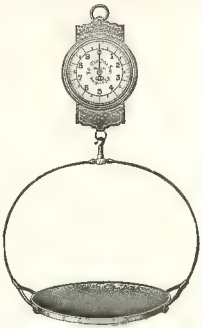
Nos.	2164	2188	2184	†2074
Capacity, tons	4	4	6	6
Platform, inches	72 x 46	72 x 59¼	72 x 59¼	96 x 72⅝
Platform edge to beam rod, inches	13¾	18¾	18¾	18¾
Each	$.....	.....	.....	.....
Weight, pounds	515	755	825	825
Nos.		†2050	2156	†2070
Capacity, tons		6	10	10
Platform, inches		108 x 83	72 x 59¼	96 x 72⅝
Platform edge to beam rod, inches		31½	18¾	18¾
Each		$.....	.....	.....
Weight, pounds		850	980	1050

Prices on application

*Not carried in stock; will ship from factory.

†May be built with platform 10 feet long.

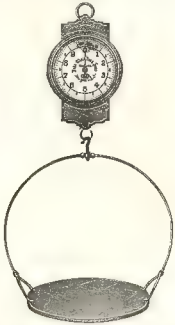
CIRCULAR SPRING BALANCES



Consists of spring balance with japanned iron case, 7 inch dial, white enameled front and glass sash and porcelain enameled pan with nickel silver rims and nickel plated bows.

Nos.	5266E	5276E
Capacity, pounds	30	60
Graduations, ounces	1	2
Pan diameter, inches	13	13
Each	$18.00	20.00
Weight, pounds	11¾	11¾

One in a box

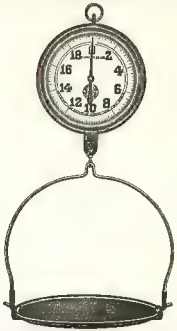


Consists of spring balance with japanned case, 7 inch dial, white enameled front and glass sash and improved porcelain pan with nickel plated bows.

No.	5266P
Capacity, pounds	30
Graduations, ounce	1
Pan diameter, inches	13
Each	$18.00
Weight, pounds	11¾

One in a box

CIRCULAR SPRING BALANCES



Chatillon red; consists of circular spring balance with black enameled steel case, 8⅛ inch diameter; red enameled dial with white border and large distance reading, gold figures on red 1 inch high and black markings in white border; tinned steel bows and hook, folding white enameled steel pan.

No.	0344E
Capacity, pounds	20
Graduations, ounce	1
Pan diameter, inches	11
Each	$7.50
Weight, pounds	4½

One in a box

MARKET SCALES

CHATILLON

With high column and double dials

No. 0179. Capacity 50 pounds by 2 ounces; double dial 8 inches diameter, marble slab 11½ x 14½ inches; height of column over all 32 inches; iron parts finished in black enamel and decorated; weight 80 pounds..... each, $55.00

One in a box

SPRING BALANCES

Nos. 2000 to 30

No. 70

STRAIGHT

Black japanned case, brass front with stamped figures and graduations, tinned hook and ring

Ordinary Quality

Nos.	2000	20	30
Capacity, pounds	25	25	50
Graduations, pounds	½	½	1
Per dozen	$3.80	3.20	6.00
Weight per dozen, pounds	2½	2½	4½

Nos. 2000 and 20, one dozen; No 30, half dozen in a box

Extra Quality

No.	70
Capacity, pounds	50
Graduations, pounds	1
Per dozen	$16.00
Weight per dozen, pounds	10

One half dozen in a box

ICE BALANCES

IRON CLAD

No. 140. Malleable iron case, black japanned and ornamented, brass nickel plated dial plate with stamped figures and graduations, heavy spring, tinned hook and ring. Capacity 200 pounds by 2 pounds; weight per dozen 66 pounds.....per dozen, **$108.00**

One twelfth dozen in a box

CIRCULAR SPRING BALANCES

Consists of one spring balance with japanned iron case, 7 inch dial, white enameled front, glass sash and square tin pan with tinned chain.

Nos.	5262	5272
Capacity, pounds	30	60
Graduations, ounces	1	2
Pan, inches	10½ x 12	11½ x 12
Each	$12.50	14.50
Weight, pounds	6½	6¾

Consists of one spring balance with japanned iron case, 7 inch dial, white enameled front and glass sash, and round tin pan with tinned bow and swivels.

Nos.	5264	5274
Capacity, pounds	30	60
Graduations, ounces	1	2
Pan diameter, inches	13	13
Each	$13.50	15.50
Weight, pounds	8	8

VELOCIPEDES

CLEVELAND TUBULAR BALL BEARING

Built Like a Good Bicycle Throughout

Frame is made of cold rolled seamless steel tubing; joints brazed, and strongly reinforced. Wheels have cold rolled steel rims, bicycle hubs, spokes and nipples. Ball bearing wheels and pedals. Rat trap bicycle pedals. Bicycle saddle, with adjustable saddle post. Adjustable handle bar, made of steel tubing, and equipped with leather wound grips. Frame is finished in dark blue bicycle enamel, baked on, handsomely striped. Handle bar, head fittings, saddle post, fork crown, hubs, spokes, nipples, cranks and pedals are nickel plated.

Nos.	31	32
Each	$16.50	20.00
Front wheel, diameter, inches	16	20
Rear wheels, diameter, inches	10	14
Long reach from saddle, inches	18	20½
Short reach from saddle, inches	16½	19½
Weight, pounds	25	30

One in a crate

STANDARD

Triangle steel frame, narrow tread; tinned steel wire wheels, with steel tires fitted with ½ inch round rubber tires; adjustable handle bars, fitted with black enameled wood grips with nickel plated ferrules; vulcanized fibre saddle over stamped steel frame, shaped to insure comfort. Frame black enameled, baked on, wheels red.

Nos.	1R	2R	3R
Each	$6.00	6.75	8.00
Front wheel, diameter, inches	16	20	24
Rear wheels, diameter, inches	12	14	16
Long reach from saddle, inches	20	22	24
Short reach from saddle, inches	17	19	21
Weight, pounds	18	22	24

Three in a case

JUVENILE AUTOMOBILES

CLEVELAND

Sheet steel body and hood with steel rod turned under edge on upper edge of body. All steel frame and gears. Frame reinforced with steel cross members supporting body and gears, standards of elliptic spring design. Rigid front axle with forged steel knuckle joints. Hardwood seat, wood dash and radiator. Ratchet starting crank. Equipped with radiator cap, steel pedals, 6 inch diameter steering wheel, steel wire ball bearing wheels, steel tires, nickeled hub caps and ½ inch diameter round rubber tires; body and hood red, with yellow and black striping, gears and wheels black enameled, baked on; without lamps or horn, which are extra.

No.	500½
Each	$15.00
Body, inches	13 x 30
Wheels, diameter, inches	10
For children, years	3 to 5
Weight crated, pounds	35

One in a case

PIEDMONT

Sheet steel body and hood, sheet steel seat back, selected hardwood girders under body; hardwood radiator, dash and seat; frame reinforced by cross members; steel gears; standards of elliptic spring design; rigid front axle, with forged steel knuckle joints. Equipped with steel bumper, nickel plated; ratchet starting crank, nickel trimmed radiator, radiator cap, adjustable nickel plated windshield, wood rim steering wheel 8½ inches diameter, tubular steering post, upholstered seat, tool box and luggage carrier; steel fenders and running board; ball bearing wheels, with ¾ inch rubber tires; nickeled hub caps. Body and hood vermilion, gold and black striping; fenders, running board and gears black enameled, baked on; wheels black enameled, baked on, black and white striping. Without lamps or horn, which are extra.

No.	620¾
Each	$95.00
Body, inches	14 x 50
Wheels, diameter, inches	14
For children, years	5 to 8
Weight crated, pounds	120

One in a crate

MEN'S BICYCLES

CUMBERLAND

Frame—22 inches. Made from 1 inch steel.
Fork—Forged; enameled to match frame.
Crank Hanger—One piece and oil tempered.
Front Hub—Turned from bar steel, nickel plated and polished.
Coaster Brake—Morrow.
Wheels—28 inches, non-skid single tube tires
Pedals No. 1 rubber.
Handle Bars. No. 6, 22 inches wide.
Saddle—Bon-Ton.
Stand—Enameled to match frame
Mud Guards—Front and rear, enameled to match frame.

No. 10. Cumberland. Blue with aluminum head.. ..... each, **$48.00**
No. 20. Cumberland. Black with red head.... each, **48.00**
Tool Bag and Tools. Extra.... .... **1.50**

BOYS' BICYCLES

CHEROKEE BOYS'

Frame—17 inches. Made of 1 inch steel tubing
Fork—Forged; enameled to match frame.
Crank Hanger—One piece and oil tempered.
Coaster Brake—Morrow.
Wheels—26 inches, non-skid single tube tires.
Pedals—No. 2 rubber.
Saddle—Juvenile suspension.
Handle Bars—Schinneer, 16 inches.

No. 200. Cherokee Boys'. Blue with aluminum head ... . each, **$45.00**
Tool Bag and Tools. Extra. **1.50**

GIRLS' BICYCLES

CHEROKEE GIRLS'

Frame—17 inches. Made of 1 inch steel tubing
Fork—Forged; enameled to match frame.
Crank Hanger—One piece and oil tempered
Coaster Brake—Morrow.
Wheels—26 inches, non-skid single tube tires.
Pedals—No. 2 rubber.
Saddle—Juvenile suspension.
Handle Bars—Schinneer, 16 inches.

No. 300. Cherokee Girls'. Blue with aluminum head ..... each, **$46.00**
Tool Bag and Tools. Extra..... **1.50**

Each bicycle paper wrapped, one in a crate

MINERS' SUPPLIES

MERCHANDISE CHECKS

Made of brass or aluminum

Denommations	5 cts.	10 cts.	25 cts.	50 cts.	$1 00
Per 100	$				
Additional 100's					

CAR CHECKS

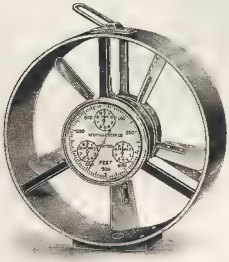
1¾ in. in diameter, ⅜ in. hole.

Aluminum, not stamped.. per lb., $.

Brass, not stamped, per lb., ...

Can furnish stamped with numbers on special order.

*ANEMOMETERS



Anemometers (air meters) are used for measuring the velocity of air currents in mines, sewers, hospitals, tunnels, etc. They serve manifold and important sanitary and scientific purposes.

In leather case with belt loop
3 in. diameter, reading to 1,000 ft.
4 in. diameter, reading to 1,000 ft
4 in. diameter, reading to 100,000 ft.

Prices on application

*Not carried in stock; will ship from factory.

BRATTICE CLOTH

Combines extreme efficiency and extreme economy. Made out of carefully selected fibers, closely woven and fireproofed by a chemically scientific process, which renders it non-inflammable and at same time practically rotproof.

Prices Per Square Yard

Width, in.	36	48	60	72
Yellow—Non-inflammable				

Fifty lineal yards in a roll

Black—Waterproof	
Red Diamond—Non-inflammable	

One hundred lineal yards in a roll

OILED HATS

SAWYER'S "DEFENDER"

No. 855

Made of durable sheeting, flannel lined, strongly reinforced by stitching; soft and light weight; may be folded to go into pocket.

Black and yellow color.

No. 855. Assorted sizes, 6¾ to 7½; weight per dozen, 3½ lb.....per dozen, **$22.00**

SAWYER'S "SQUAM"

No. 857

Excellent wearing, flannel lined, with ear pieces and chin strap. Black and yellow color.

No. 857. Assorted sizes, 6¾ to 7½; weight per dozen, 4 lb.....per dozen, **$12.50**

No. 858. Same as above, but is supplied with a leather lamp holder for miner's use. Weight per dozen, 4½ lb... .....per dozen, **14.00**

SAWYER'S "BEACON"

No. 866

Flannel lined oiled sheeting with ear pieces and chin strap. Black and yellow color. Equipped with patent tin lamp holder.

No. 866. Assorted sizes, 6¾ to 7½. Weight per dozen, 5¾ lb.....per dozen, **$16.00**

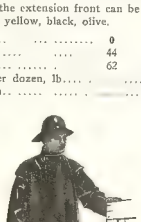
SAWYER'S OILED CLOTHING

EXCELSIOR BRAND POMMEL SLICKERS

Made double throughout, with corduroy faced collar and throat piece, epaulet patches on sleeves, elastic inner sleeves, storm lap, two "no rip" pockets and furnished with brass buttons.

When used as a riding coat the extensions in front and back fully cover the saddle, fitting closely to the horse's back, insuring a perfectly dry seat. The skirts are wide with buttons near the bottom, to fasten round the ankles. Used as a walking coat the extension front can be overlapped and buttoned. Colors: yellow, black, olive.

Size Nos.	**0**	**1**	**2**
Breast measure, in	44	40	38
Length, in	62	60	58
Average weight per dozen, lb			75
No. 21. Per dozen			**$152.00**



EXCELSIOR BRAND SLICKERS

Made double throughout, trimmed with corduroy faced collar and throat tab epaulets, elastic inner sleeves. Outside storm lap, two "no rip" pockets and brass buttons. Colors: yellow, black, olive.

Size Nos.	**0**	**1**	**2**
Breast measure, in	44	40	38
Length, in	56	54	52
Average weight per dozen, lb			55
No. 22. Per dozen			**$128.00**

SAWYER'S OILED CLOTHING

No. 363

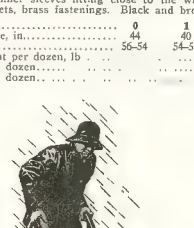
No. 201

MOTOR COATS

No. 363. Excelsior brand, nobby design, made from strong, light material and waterproofed in a dull black finish. Lined shoulders and sleeves, rolling collar with velvet faced collar band. Two "no rip" pockets and inside interlocking storm laps

No. 201. Excelsior brand, double sewed throughout, 6 inch deep collar, velvet lined with throat tab, reinforced sleeves with inner sleeves fitting close to the wrist. Two "no rip" pockets, brass fastenings. Black and brown color.

Size Nos.	**0**	**1**	**2**
Breast measure, in	44	40	38
Length, in	56–54	54–53	52
Average weight per dozen, lb			55
***No. 363.** Per dozen			**$152.00**
***No. 201.** Per dozen			**152.00**



EXCELSIOR JACKETS AND PANTS

***No. 27.** Jackets made double throughout. The front is protected by a storm lap, brass buttons. When used in combination with pants, they make a serviceable suit. Colors: yellow, black, brown and olive, weight per dozen, 30 lb.....per dozen, **$68.00**

***No. 28.** Apron pants. Made double throughout, overall style. The side openings have brass buttons. Colors: yellow, black, brown and olive, weight per dozen, 30 lb.....per dozen, **68.00**

*Not carried in stock; will ship from factory.

GRINDING MILLS

BLACK HAWK

An excellent mill for home use. Grinds corn, rice, rye or other small grain, peas, beans, spices, etc.

Chilled grinding burrs and plates ground perfectly true.

Chilled iron bearings and long malleable handle.

Parts are interchangeable and easily put in place.

Holes and slots allow securing in place on table or bench with bolts, which are furnished with each mill.

Black Hawk. Weight 17 pounds..... ..... each, **$5.00**

RED CHIEF

A rapid grinding mill, especially adapted for grinding small dry grain for poultry. It combines all the elements of rapid work, perfect grinding and requires little power. Can be taken apart, cleaned and reassembled in a few minutes without tools. Clamps or bolts to a box as desired.

No. 1. Weight 21 pounds.....each, **$7.70**

RED CHIEF

This mill has a feed gauge in the hopper so that when grinding wheat, rice or other small grain, the feed can be regulated for very fine grinding with this device.

A child can turn the crank when grinding graham flour or table meal.

Equipped with fine burrs and special spring tension for adjustment, assuring ease in operation.

Can be taken apart, cleaned and reassembled easily in a few minutes without the use of wrench or screwdriver.

Clamps or bolts to box as desired and has hooks on which to hang a bucket.

No. 2. Weight 24 pounds.....each, **$9.60**

GRINDING MILLS

RED CHIEF

Built with a heavy flywheel, making it run steady and easy.

Has feed gauge in the hopper, fine burrs, an adjustable handle, and is equipped with clamps and bolts for securing it in position for work.

Readily taken apart, cleaned and assembled.

No. 5. Weight 35 pounds.....each, **$13.50**

RED CHIEF

Capacity 2 to 4 bushels per hour.

Equipped with extra hardened burrs which are self-sharpening and cut without mashing the grain.

Can be used for grinding all small grains, also for coffee and spices and poultry raisers frequently use it for grinding oyster shells and dry bone.

Supplied with feed gauge in hopper, the hopper being white enameled on the inside. Easily taken apart, cleaned and reassembled without the use of wrench or screwdriver.

No. 10. Weight 50 pounds.....each, **$16.50**

RED CHIEF

Power Mill

Constructed entirely of metal. It has best bronze axles, specially hardened burrs, patent tension, reversible belt shift and feed regulator.

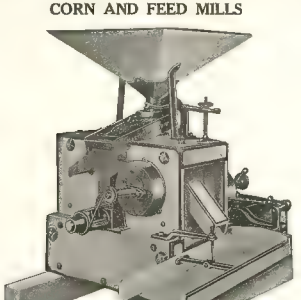
It is equipped with a pulley for use with power, also a crank for hand use when the engine is not running.

For engine three-quarter horsepower and over.

Capacity 5 to 8 bushels feed per hour.

No. 15. Weight 65 pounds.....each, **$27.00**

CORN AND FEED MILLS



CORN KING

The Corn King mill is especially built for making the old-fashioned "water ground" meal which commands a premium on every market.

It will also grind graham, whole wheat and buckwheat flour and any grain or mixture of grain into soft feed.

The Corn King is the only popular priced mill on the market containing genuine Brushite blue pebble stone burrs. This stone will not glaze or get slick and will grind cooler and faster and wear longer without dressing than any other mill stone.

Corn King mills are built in eight sizes to meet every need, from individual farm work to that of the largest custom mills.

Every mill is fully guaranteed

In the construction of these mills thoroughly seasoned forest pine is used for the framework, the burrs are carefully selected, properly furrowed and paired up to match in texture and equal in hardness.

The grain feed is regulated by a hand wheel and is easily adjusted to any capacity.

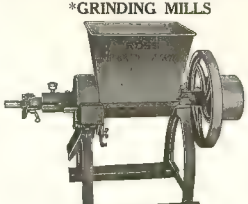
Each mill is fitted with specially made ball bearings, which work against the thrust end of the shaft which is made of cold rolled steel, carefully machined.

They are equipped with double screen-cleaning shoes and patented reverse lock lever controlling the fineness of the meal, and bolter burrs cannot jar apart or run together while the mill is in operation.

Size No.	Each	Horsepower	Pulley, Inches	Capacity Per Hour, Bushel	Speed R. P. M.	Weight Pounds
*1-14	$125.00	4 to 8	10x6	5 to 7	800	780
2-16	140.00	6 to 8	12x6	6 to 8	760	870
*3-18	165.00	6 to 8	12x6	7 to 9	730	1030
4-20	175.00	6 to 10	12x6	8 to 10	700	1160
*5-22	200.00	6 to 10	14x6	8 to 12	650	1260
6-24	225.00	8 to 12	14x6	10 to 15	625	1360
*7-26	250.00	10 to 15	16x8	10 to 20	600	1640
*8-30	300.00	15 to 25	16x8	16 to 25	500	1935

*Not carried in stock; will ship from factory.

*GRINDING MILLS

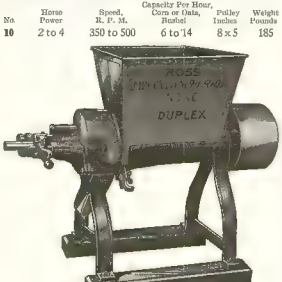


No. 10

ROSS IMPROVED SUPERIOR DUPLEX

Iron and steel throughout, pivoted and self-conforming and adjustable burrs, quick release and fine hand screw adjustment, no end thrust, combination crusher and force feed. Equipped with 6½ inch burrs. One extra set of burrs furnished with each mill.

No.	Horse Power	Speed, R. P. M.	Capacity Per Hour, Corn or Oats, Bushel	Pulley Inches	Weight Pounds	Each
10	2 to 4	350 to 500	6 to 14	8x5	185	$42.00



No. 40

ROSS IMPROVED SUPERIOR DUPLEX

Equipped with improved pivoted and adjustable and self-conforming burrs 6 inches in diameter. Duplex means double or two complete sets of grinders, consequently this No 40 mill is equal to any single burr mill having burrs 12 inches in diameter.

For uniform grinding and high quality work this mill cannot be equalled.

The pivoted, adjustable and self-conforming burrs insure grinding the full surface of the Duplex burr instead of grinding here and there as is done in some mills.

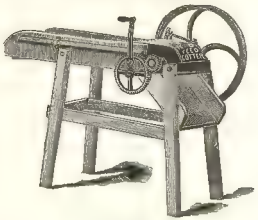
The Ross No. 40 is equipped with double slides at entrance to the burrs, which puts the regulation where it belongs.

For grinding corn on cob, without husks, as well as wheat, barley, shelled corn, oats and rye, this mill is most desirable. Small grain can be handled alone or mixed.

No.	Horse Power	Speed, R. P. M.	Capacity Per Hour, Corn or Oats, Bushel	Pulley Inches	Weight Pounds	Each
40	4 to 6	400 to 600	8 to 20	8x5	250	$59.00

*Not carried in stock, will ship from factory.

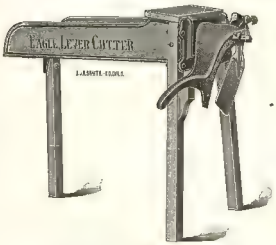
FEED CUTTERS



EAGLE K. D.

Has 11 inch spiral knife, heavy balance wheel, makes three cuts to one turn of the crank, producing a free, rapid and easy cut. Cuts for different lengths.

No. K. D. Weight 159 pounds.....each, **$32.00**



EAGLE HAND LEVER

Has a steel knife with 10½ inch cutting edge and an adjustable gauge to regulate cut any length up to 2¼ inches

No. 00. Weight 45 pounds.....each, **$11.00**

BLACK HAWK CORN SHELLERS

Malleable iron frame, hopper, separator and crank.

All bearings are made extra long and fully chilled.

Clamps to any barrel, box, bin or tub.

Finished in black japan

Black Hawk. Capacity 8 to 14 bushels per hour, weight each 15 pounds, per dozen, **$64.00**

FEED CUTTERS

GENEVA

For both hand and power. Has two 10 inch knives and cuts five different lengths, ¼, ⅜, ¾, 1 and 1½ inch. The gearing is covered and is provided with a lever to throw in and out of gear and reverse motion of rollers when desired.

***No. 10.** Geneva. Weight 400 pounds. Price on application.

OHIO HAND

Has two 8½ inch carbon steel knives, cuts ¾, ½, ⅜ and 1 inch, 38 inch feed box, 25 inch flywheel, chilled iron cutter bar. Hardwood frame, firmly put together; finely finished.

No. 8½K2. Weight 175 pounds.....each, **$66.00**

RED CHIEF CORN SHELLERS

Malleable iron frame and hopper, 7¼ inch sheller disc with projecting teeth, crank with wood grip, steel axle, adjustable to any size ear, fastens to side of box or bin

Red Chief. Capacity 8 to 12 bushels per hour, weight each 11 pounds.....per dozen **$60.00**

One dozen in a box

*Not carried in stock; will ship from factory.

*ECONOMY HAY PRESSES

A Steel Press of High Quality and Low Price

The baling chamber is made entirely of high grade steel, with a deep flaring hopper. The pitman and plunger head are steel, connected by a knuckle joint. The plunger head is mounted on four wheels, has flexible steel shield The trucks are strong and durable Each press is equipped with tongue, doubletree, singletrees, jockey stick, breast yoke, hay table, monkey wrench, oil can and tool box. The lifting jack and signal bell are extra.

***Economy Hay Presses,** 14x18 inches, weight 1800 pounds..... ..Price on application

*PEA HULLERS

B ROYAL

Steel and iron throughout, with the exception of the hopper and base.

Gray iron cylinder, 11 inches long by 5 inches diameter.

Gray iron concave sections.

Has automatic revolving screen.

Only one crank. Does the work thoroughly and delivers the peas clean and ready for the market.

No. B Royal. Weight 150 pounds .....each, **$70.00**

A ROYAL

Steel and iron construction, with wooden base and hopper.

Gray iron cylinder, 8 inches long by 5 inches diameter.

Gray iron concave sections.

Automatic revolving screen.

Only one crank. Does the work and delivers the peas clean and ready for market.

No. A Royal. Weight 125 pounds .....each, **$60.00**

GEM ROYAL

A small wooden machine of large capacity considering its size.

Cylinder of wood, 10x5 inches.

Steel teeth.

All bearings are of iron.

Has a hand operated screen, working on cleats that does very satisfactory work. It is very light running.

Gem Royal. Weight 100 pounds .....each, **$40.00**

*Not carried in stock; will ship from factory.

ECO AIR AND WATER STATIONS

These stations are being built and installed to supply the demand for an automatic air dispenser which will give the best of service to the autoist and collect a fair charge for the service rendered without taking any time of a mechanic or garageman.

Good air service costs a garageman considerable and an auto user would rather pay for good service than have poor service free. Good service means correct air pressure at all times, clean air and no waiting for attendants. And good service means satisfied customers.

Eco air and water stations can be furnished without the coin device if desired.

Eco air station No. 12 can be furnished in any one of three styles—complete with automatic valve and coin box complete with automatic valve but less coin box—without either automatic valve or coin box.

These stations are located outside the garage and connected to the compressed air system of the garage.

These stations are built of gray iron. Each station contains a patented, enclosed, spring operated steel hose reel, running on Hyatt roller bearings. The spring is in an oil bath and the spring tension is adjustable. Each reel carries 32 feet of special Eco brand oil resisting air hose. All bearings are amply proportioned.

In the coin operated machines the reel is geared direct to a spring barrel controlled by the coin device, which makes it necessary to deposit a coin before air can be obtained.

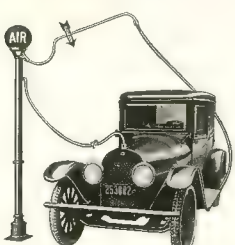
An automatic cut-off in the base of the station cuts off all air pressure except when the hose is pulled out. When the hose is released the spring draws the hose back into the station, automatically locks the device and makes it necessary to deposit another coin before station can again be used.

Gauge in top shows tank and tire pressure. Water faucet can be connected to city water or other source of supply.

All mechanism as near fool proof as possible and protected from dust and weather. Finished in weather-blue enamel finish with top provided for electric light.

No. 12C Complete with automatic valve and coin box.....each, **$125.00**
No. 12B Complete with automatic valve, but without coin box.....each, **115.00**
No. 12A Without coin box or automatic valve .....each, **95.00**

ROMORT AIR AND WATER STATIONS



Romort air and water stations furnish not only a convenient service but combine with these features an effective advertising device in the 12 inch green electric light globe on the top which attracts attention.

When these stations are installed at the curb they do not impede traffic in the least when not in use. When in use, the arm through which the air hose passes is drawn down, allowing air service to be applied to the tires of the car in position at the station. After air has been supplied and the hose is released by the user, the arm returns to a vertical position, where it remains until again used.

Both air and water hose are at all times clear of the ground and particularly so when the hose is not in use. This not only lengthens the life of the air hose and valve, but affords a clean method of inflating tires and supplying water to the radiator.

Romort air and water stations have an oil governor built into the head, which controls the return of the extension arm. If this governor were not used the sudden return of the vertical arm would possibly cause damage by being abruptly checked because of the strength of the spring used in returning the arm. Adjustment is made by means of an adjusting screw in the head. The chamber of the governor is filled with a 50 per cent solution of kerosene and lubricating oil or other non-freezing oils.

This model has a large, roomy round base, with a large door, which makes the installation and connection to the air, water and lighting lines a very simple matter. It also contains an electric wire junction box, having a swivel, where the conduit pipes connect.

The electric light globe is sandblasted with white letters and has a standard 6 inch base held firmly in place by a metal ring.

Height, base to head, 6 feet. Height to top of arm, 12 feet. Radius of hose, 17½ feet.

All fittings furnished, ready for installation.

Model SB Globe type.....each, **$90.00**

*GASOLINE OUTFITS

ROADWAY FILLING STATION

Rapid Delivery Five Gallon Continuous Motion Speed Pump

This outfit provides the fastest hand operated method of filling motor cars and is the very next thing to an electric pump in speed.

Without any special effort on the part of the operator, a speed of 15 gallons per minute is attained.

The pump is handsomely finished in a hard baked enamel with nickel trimmings. Adjustable measuring stops enable the operator to draw accurately one, two, three, four or five gallons at a single stroke. The measuring stops can be sealed to prevent tampering with the measuring device.

Slightly over twelve turns of the crank delivers five gallons. To return the plunger, only two revolutions of the crank in the same direction are necessary. The crank handle is always turned forward—never backward

A gallon recording meter keeps an accurate record of every gallon pumped, up to million gallons, then repeats and cannot be set back. It is included without any extra charge.

A very large discharge register indicates each gallon pumped up to 20 and is set back to zero before starting.

A large and efficient filter is provided which removes any particles of water or dirt which may be in the gasoline.

When not in use, the cover is raised and securely locked with the hose nozzle inside. Thus neither the hose nor the mechanism can be tampered with by unauthorized persons.

Standard equipment with no extra charge includes the meter, filter, 10 foot 1¼ inch metal hose with portable filling nozzle and electrically illuminated sign

The tank is built by the "Kant-Leek" process of galvanized Apollo steel and carries the underwriters' label. It is fitted with fill pipe having automatic vent valve, lock, removable strainer and inner tube. A measuring stick is included. The interior suction pipe is provided with special double foot valves which insure the accuracy and continued priming of the pump.

Type 36. Pump only with electric sign, weight 345 pounds ..... each, **$386.00**

Type 36. With 280 gallon tank, weight 735 pounds... ..... each, **508.00**

Type 36. With 550 gallon tank, weight 1150 pounds.. ..... each, **629.00**

Type 36. With 820 gallon tank, weight 1450 pounds.. ..... each, **674.00**

Type 36. With 1075 gallon tank, weight 1720 pounds ..... each, **757.00**

NOTE—Type 36 can be furnished with motor drive. Control, fast or slow, is readily accomplished, making a perfect filling pump of accuracy and durability

*Not carried in stock; will ship from factory.

*LUBRICATING OIL OUTFITS

SELF MEASURING

Designed for storage of lubricating oil in garages, stores or factories, affording a means of accurate measuring both clean and durable.

The pump has adjustable stops for quarts, pints or half pints. Is equipped with a non-drip faucet and is handsomely finished in black enamel.

The tank is of heavy metal solidly welded into one seamless piece avoiding all leakage. It is very durable under rough usage.

A float measuring gauge is provided. The filling basin is fitted with removable strainer, grate and dust proof cover. The tank is green enameled.

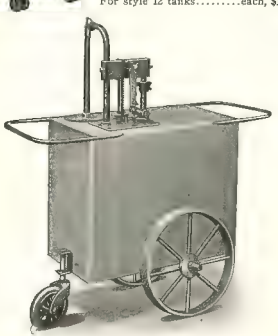
A detachable portable wheel base is furnished as an extra only.

The tank measures 35x24 inches.
Capacity 55 gallons.
Shipping weight 125 pounds.

Type 12. As described....each, **$81.00**

PORTABLE TANK BASES

For style 12 tanks.....each, **$10.00**



*PORTABLE WHEEL OIL TANKS

An economical and absolutely safe method of handling oil at various parts of a building or at the curb. Designed for use in garages, factories and railroad shops. The wheels are large and it is easily moved about. There is a brake supplied to hold it stationary.

The tank is a one piece seamless "Kant-Leek" and is equipped with a fill basin and magnetic gauge. Finished in olive green enamel.

The pump is self measuring with usual stops. Complete with non drip faucet, lock and key.

Type 62. Holds 60 gallons, weight 375 pounds..each, **$140.00**

*Not carried in stock; will ship from factory.

*GASOLINE OUTFITS
NON-MEASURING

This outfit is designed especially to meet the need for a gasoline outfit for the private garage owner. It is durable, efficient and of extraordinary merit.

The pump is of the standard non-measuring, lift handle design. Made largely of brass with valves carefully ground and all parts fitted by expert workmen.

It works easily and discharges almost a steady stream. It stands over two feet high on a substantial base and is fitted with a non-drip faucet, lock and key.

The underground tank to be used in connection with this pump is made of galvanized steel and is fitted with fill pipe having automatic valve, lock, removable strainer and inner tube.

Type 9. Non-measuring pump only without tank or hose, weight 50 pounds ..... each, **$16.00**

Type 9. With 120 gallon tank, weight 150 pounds. each, **61.00**

10 Ft. ¾ Inch Gas Hose with portable nozzle..... each, **17.00**

SELF MEASURING
Standard Inside Outfit

A convenient system for drawing gasoline within the building where it is used, the storage tank being placed on the outside or under the floor.

The pump is of easy action, standard self measuring design, having adjustable stops for gallons, half gallons and quarts.

It is built of the best materials and is very sturdy. Is regularly equipped with discharge register counting to ten, non-drip faucet, lock and key.

The tank is of the famous Milwaukee "Kant-Leek" construction and is provided with interior suction pipe with outside connections, double foot valves for holding the line full of liquid, fill pipe with inner tube, strainer, fill cap with removable strainer, automatic vent valve, gauge stick and lock. All gasoline tanks bear underwriters' label.

Type 33. Self measuring pump only, without tank or hose, weight 100 pounds..... each, **$112.00**

Type 33. With 60 gallon tank, weight 150 pounds.... ..... each, **144.00**

Type 33. With 120 gallon tank, weight 200 pounds... ..... each, **158.00**

Type 33. With 280 gallon tank, weight 375 pounds... ..... each, **216.00**

10 Ft. Gasoline Hose with nozzle..... **23.00**

*Not carried in stock; will ship from factory

*GASOLINE OUTFITS
CURB FILLING STATION
With Electrically Illuminated Sign

A speedy, accurate gasoline curb outfit which is very attractive and entirely satisfactory.

The pump is of the standard self measuring design having instantly adjustable stops for one gallon, half gallon and quart. A discharge register is furnished which automatically counts ten.

When pump is in use the cover is held suspended by a spring latch and when not in use the cover can be lowered and securely locked, preventing meddling and enclosing all operating parts, including the filling nozzle on the end of the hose.

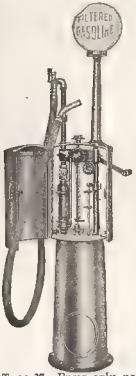
The pump works remarkably easy and delivers a heavy stream.

Ten feet of special gasoline hose with portable fill nozzle is included. A hose draining valve empties the hose instantly after pumping ceases.

The tank is of the Milwaukee "Kant-Leek" construction and has all the desirable conveniences.

Type 34. Pump only, no tank, weight 180 lb....each, **$153.00**
Type 34. With 120 gallon tank, weight 280 lb.. each, **202.00**
Type 34. With 280 gallon tank, weight 390 lb....each, **247.00**
Type 34. With 550 gallon tank, weight 630 lb...each, **363.00**
Gallon Recording Meter..... each, **28.00**
Gasoline Filter **19.00**

ROADWAY FILLING STATION



This is a very speedy and extremely accurate outfit and at the same time an attractive trade getting installation

The pump is of the standard self measuring design with the usual stops. A gallon recording meter is provided which keeps accurate count of gasoline pumped up to 100,000 gallons and then repeats, but cannot be set back.

A discharge register, counting to ten records individual sales. An efficient filter is built into the outfit. Ten feet of special gasoline hose with portable fill nozzle is provided for filling directly into the car.

The tank is of the Milwaukee "Kant-Leek" construction and is equipped with fill pipe having automatic vent valve, lock and key, inner tube and removable strainer. A measuring gauge is included. An interior suction pipe having special foot valve is also furnished.

Electric sign is an extra, priced separately.

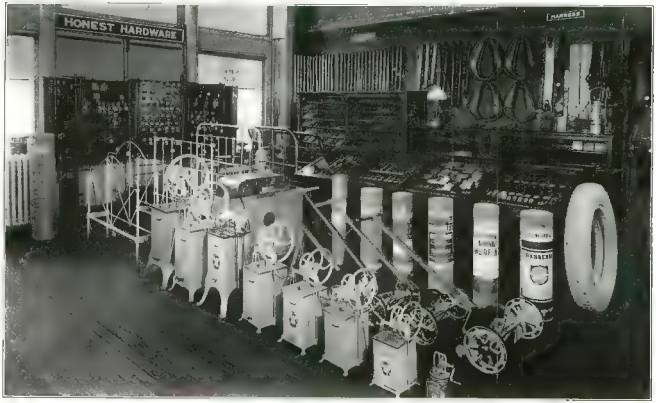
Type 37. Pump only, no tank, weight 225 lb....each, **$262.00**
Type 37. With 120 gallon tank, weight 325 lb...each, **313.00**
Type 37. With 280 gallon tank, weight 435 lb...each, **403.00**
Type 37. With 550 gallon tank, weight 675 lb...each, **512.00**
Electric Sign. Weight 20 pounds..... each, **15.00**

*Not carried in stock: will ship from factory.

"Of course, as you know, Stoves and Heaters are big lines with us."

Nearly every day, some new items are added to our lines, and put on sample here."

"Here we are in a corner of our Sample Rooms."



"You see, customers can easily look over the goods in here and make their selections."

HOTZ HARMONICAS

No. 00 Blue Ribbon. Guaranteed perfect in tone, every dozen being uniform in quality. Highly polished, nickel plated covers, brassed plates, 10 single holes, 20 reeds .....per dozen, **$8.50**

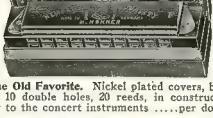
One in a telescope box, one dozen in a package

No. 03 United Service. Unsurpassed in tone and quality, full concert size (4⅝ inches), heavy nickel plated covers, brassed plates, 10 double holes, 20 reeds .....per dozen, **$16.00**

HOHNER HARMONICAS

No. 34B The Old Standby. Guaranteed first class in every way, nickel plated covers, brass plates, 10 single holes, 20 reeds .....per dozen, **$16.00**

No. 50B The Old Favorite. Nickel plated covers, brass plates, 10 double holes, 20 reeds, in construction similar to the concert instruments .....per dozen, **$16.00**



No. 1896 Concert, Marine Band. Heavy convex finely nickel plated covers, brass plates, 10 double holes, 40 reeds, full concert .....per dozen **$18.00**

All above, except No. 00, one in a hinged box, one dozen in a package

HOHNER HARMONICAS

NO. 425 HOHNER BOY ASSORTMENT

No. 425 Hohner Boy Assortment. Consists of one dozen genuine Hohner harmonicas in a variety of styles and keys; each assortment is mounted on a beautiful and attractive lithographed cut-out printed in six colors. It stands 31 inches high and pictures a boy pleased with the harmonica in his hand .....each, **$16.80**

One assortment (one dozen) on a card

STEEL MUSICAL INSTRUMENT STRINGS

VIOLIN

No.		Per Dozen
60	E or first, 1 length silver plated, with knot	$0.40
65	A or second, 1 length silver plated, with knot	.40
70	D or third, 1 length steel wire covered, wire center	1.00
80	G or fourth, 1 length steel wire covered, wire center	1.20
95	Set complete, 4 strings, silver plated..per dozen sets,	4.50

GUITAR

No.		Per Dozen
50	E or first, 1 length silver plated wire	$0.48
51	B or second, 1 length silver plated wire	.48
52	G or third, 1 length silver plated wire	.48
88D	D or fourth, 1 length wound on steel wire	1.60
88A	A or fifth, 1 length wound on steel wire	2.00
88E	E or sixth, 1 length wound on steel wire	2.80
98	Set complete, 6 strings, silver plated..per dozen sets,	10.00

BANJO

No.		Per Dozen
1½	First, 1 length silver plated wire	$0.48
2½	Second, 1 length silver plated wire	.48
3½	Third, 1 length silver plated wire	.48
4½	Fourth, 1 length silver plated wire	1.00
5½	Fifth, 1 length silver plated wire	.48
112	Set complete, 6 strings..per dozen sets,	6.00

MANDOLIN

No.		Per Dozen
101	E or first, 1 length silver plated wire	$0.48
103	A or second, 1 length silver plated wire	.48
105	D or third, covered silver plated wire	1.00
107	G or fourth, covered silver plated wire	1.20
47	Set complete, 8 strings ..per dozen sets,	7.00

One gross in a package

LOUDEN OVERHEAD CARRYING SYSTEM FOR GARAGES

Fig. 1322

Louden Two Wheel Trolley

The slickest running trolley on the market for carrying light loads weighing up to 250 lbs. The wheels are roller bearing which makes it very easy to push along the track. It can be used for hundreds of different classes of work.

Fig. 1322 Two Wheel Trolley...each, **$6.30**

The Louden Merchandise Carrier

This carrier is especially suitable for use in garages, being just the outfit for hoisting an engine out of its seat or raising the entire end of the car while work is being done underneath. It has a capacity of 500 lbs.

Fig. 888 Merchandise Carrier..each, **$14.10**

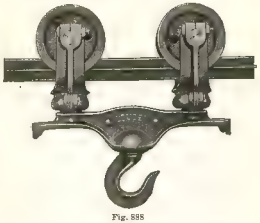


Fig. 888

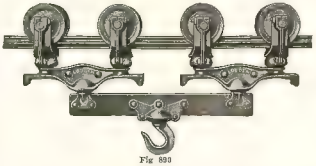


Fig. 890

Louden Double Truck Merchandise Carrier

An exceptionally strong, serviceable carrier. It is substantially built with eight heavy roller bearing wheels mounted on swivel trucks connected together by a heavy steel bar. This carrier has a capacity of 1000 lbs. and is just the carrier for garage use—makes it a simple operation for one man to lift and convey a heavy auto engine.

Fig. 890 Double Truck Merchandise Carrier.....each, **$37.50**

Louden Track

Fig. 571 track is made out of the finest and strongest high carbon steel. The shape of the track is such that all unnecessary friction is eliminated. This makes possible the movement of heavy loads with the least amount of power. The Louden track can be curved to go in any irregular direction. If any changes or additions are desired when the system is installed, the track can be easily bent on the job at the time as required.

Fig. 571 Track.....per 100 ft., **$37.50**

Fig. 571

Louden Track Fittings

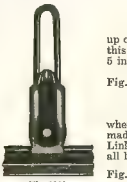


Fig. 1066

Fig. 1066 is the Louden Adjustable Link Track Hanger. Link can be adjusted up or down 1½ in., making it handy for use where joists are uneven. We can furnish this hanger in odd inch lengths up to 61 in. However, link track hangers at least 5 in. in length should always be specified.

	5 in. Long	9 in. Long
Fig. 1066 Track Hangers.....per dozen,	**$4.50**	**$5.05**

Other Sizes Quoted on Application

Fig. 424 is the Louden Standard Rafter Bracket. This is the bracket to order when the track is supported from joist running at right angles to the track. It is made of pressed steel and is an exceptionally easy and handy bracket to install. The Link Track Hanger, Fig. 1066, rests in the stirrup, and because of its construction all brackets can be nailed in place before any of the track is installed.

Fig. 424 Rafter Bracket.....per dozen, **$1.05**

Fig. 1354 Fig. 1355

Fig. 1354 illustrates the Louden I-Beam Clamp for suspending track from I-beams. This clamp is made in one size only. However, this size can be used with beams ranging from 2¾ in. to 4 in. in flange width. The clamp is made out of malleable iron and is strongly constructed throughout.

Fig. 1354 I-Beam Hangers.....per dozen, **$5.10**

Fig. 424

Where the Louden track is to be suspended from channel iron the clamp shown in Fig. 1355 should be used; made out of malleable iron in one size only for 2 in. channel.

Fig. 1355 Channel Iron Hanger.....per dozen, **$4.20**

Fig. 550 is the splice clamp for Louden Steel Track. It is made out of malleable iron and is held firmly in place on the under side of the track by six bolts.

Fig. 550. Splice Clamp for Steel Track .....each, **$0.60**

Fig. 550

Switches and Cross Tracks Quoted on Application

IMPERIAL AUTOMATIC ACETYLENE GENERATORS

With Imperial Acetylene Generators you manufacture your own acetylene gas at a saving of from two to five cents per cubic foot over the cost of gas compressed in cylinders.

The Imperial generator is of the medium pressure, carbide to water type and produces pure acetylene gas for welding, cutting and lead burning by the oxy-acetylene process.

It is made in 15, 25, 50 and 100 lb. sizes to meet every service requirement and can be used with any make of oxy-acetylene welding, cutting and lead burning apparatus on the market.

Has a simple and positive feed and an absolutely even pressure is constantly maintained under all conditions. Both feeding and pressure regulations are wholly automatic in action. There are no weights, clock work or complicated mechanism.

The carbide is fed into the water by a simple vibrator of the dashpot principle with but one moving part. This vibrator is operated automatically by the gas flowing through it from the generator to the torch. Whenever the torch is shut off the feeding of the carbide automatically stops and when the torch is turned on the carbide automatically starts to feed.

The pressure in the generator is controlled by the tension of a spring in a diaphragm governor and an absolutely even feed is maintained under all conditions. This pressure is so steady that a torch will burn for hours at a time without any need of adjusting the torch valves. No acetylene regulator is needed in the service line unless a number of torches are being used on it.

Interlocking safety levers make it necessary to follow the proper sequence of operations necessary to fill, start or shut off the generator. A dependable safety blow-off makes it impossible to obtain more than 15 lbs. pressure in the generator, which is recognized as the maximum pressure allowable for acetylene gas. The gas purifier section of the generator through which all the acetylene gas passes on its way from the generator to the torch has a water seal which cools the gas and absolutely prevents a back flash reaching the generator. ¼x1/12 in carbide is the only size that should be used in this generator and can be obtained in 100 lb. drums. 100 lbs. of carbide is equivalent to 500 ft. of compressed gas in cylinder.

And above all you have gas at all times when needed saving delay and loss of time. These generators may be used on trucks gas in cylinders.

Fifteen pound Imperial Generators are particularly adapted for small shops and welding and cutting work where portability is an important factor. Is also suitable for battery service stations for lead burning and for light welding and brazing as it will supply one welding torch using a No. 5 or smaller tip. Will supply one cutting torch using No. 3 or smaller tip. Truck which will accommodate generator and one cylinder of oxygen furnished unless otherwise specified.

Twenty-five pound Generators are recommended for garages and repair shops. Will supply one welding torch with Nos. 6 or 7 tips or two using No. 5 or smaller tips. Will supply one cutting torch with No. 4 or smaller tip. Truck to accommodate generator and one oxygen tank supplied.

Fifty pound Generators are suitable for large repair shops and manufacturing service where practically continuous use is required. Will supply four welding torches with No. 5 or smaller tip or two with a No. 6 or 7 tip or one with a No. 8 or larger tip. Will supply two torches with No. 4 or smaller tips. Too large to move conveniently so no truck is supplied.

One hundred pound Generators are recommended for equipment where a large number of welding torches are in continuous use. Will supply eight welding torches with No. 5 tip, or four with No. 6 tips and two with No. 8 tips. Will supply four cutting torches with No. 4 or smaller tips. No truck.

Specifications

Size Lbs.	Carbide Capacity Lbs.	Carbide Used Per Hr. Lbs	Acet. Gas Generated Per Hr. Cu. Ft.	Acet. Gas Generated Per Charge Cu. Ft.	Number of Torches Light Work	Number of Torches Medium Work	Number of Torches Heavy Work	Number of 100 Cu. Ft. Cylinders Compressed Gas Equalled	Height In.	Diam. In	Weight Cylinders Lbs	Weight Truck Lbs.	Each With Truck	Each Without Truck
15	15	3	15	75	1	1	0	1	38½	16	140	40	$175.00	$155.00
25	25	5	25	125	2	1	1	1½	38½	20	200	40	200.00	180.00
50	50	10	50	250	4	2	1	3	54½	24	250	..	.....	275.00
100	100	20	100	500	10	5	2	6	67½	28	350	..	.....	425.00

*CONTRACTORS' DUMP CARTS

Made throughout of hardwood lumber thoroughly braced and bolted. Heavy side and cross sills, each side board is secured to the sill by four anchor bolts and iron braced at the rear, all wearing points are protected. Bed is iron, strapped all around the top. Rear sill ends are iron shod. Extra strong tail gate irons. Wheels are set to standard wide tread, 5 ft. 4 in. from outside to outside of tires. Equipped with sandproof malleable hubs. All wearing parts fully protected. Painted Venetian red or blue.

Dump Carts. Capacity 21 cu. ft., size of bed 67½x44x12 in., wheels 54 in. diameter, 3x½ in. tires. Weight each, about 705 lb.

Price on application

*CONCRETE CARTS

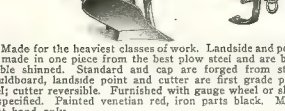
K. & J. SELF BALANCING

Top edges of bowl are stiffened on the sides and back by heavy angles, lip of bowl is stiffened and protected by a heavy bar. Handle is made of one piece pipe smoothly formed and securely bolted to side, stiffening angles. 42 inch staggered spoke, Bettendorf pattern steel wheels. Axles are attached to body by malleable spiders.

K. & J. Self Balancing Concrete Cart. Capacity 6 cu. ft., inside width 23½ in., inside length 38½ in., greatest depth 18½ in., 1½ in. axle, 34½ in. tread, 42x2 in. wheels. Approximate weight, 218 lb.

Price on application

CONTRACTORS' GRADING PLOWS



Made for the heaviest classes of work. Landside and point are made in one piece from the best plow steel and are both double shinned. Standard and cap are forged from steel. Mouldboard, landside point and cutter are first grade plow steel; cutter reversible. Furnished with gauge wheel or shoe, as specified. Painted venetian red, iron parts black. Made right hand only.

No. 105. Beam length 7½ ft., required horsepower 4 to 6, weight each, 175 lb.....each, $85.00
Extra points.....each, 18.00

*Not carried in stock; will ship from factory.

DRAG SCRAPERS

CHEROKEE

With runners

Solid steel bowl, riveted. Steel hooks, bail and swivel, ¼ inch steel runners. Selected hardwood handles.

Nos.	1	2	3
Capacity, cu. ft.	7	5	3
Size of bowl, in.	33x31½x11	31½x28x10	31½x25x10
Weight each, lb.	80	70	65
Each	$30.00	19.50	19.00

BOSS

With runners

Seamless steel bowl, steel bail and swivel. Improved bail ears, heavy steel runners. Selected hardwood handles.

Nos.	1	2	3
Capacity, cu. ft.	7	5	3
Size of bowl, in.	34x33x10	31½x29½x9½	32x26x9½
Weight each, lb.	88	80	70
Each	$27.00	26.00	24.50

SCRAPERS

*K. & J. WHEEL

The K. & J. wheeled scraper is a very popular type. It embodies all the good points of construction ever developed for this type and has several additional exclusive design features. Equipped with malleable iron hubs, having replaceable cast iron boxings.

No. 2. Capacity 13 cubic feet. Size of bowl 37x38x13 in., diameter of wheels 40 in., size of tire 3x¼ in., track gauge 55 in. Weight, each, 644 lb.

Price on application

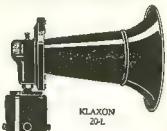
*Not carried in stock; will ship from factory.

The KLAXON Line

"REGULARS"

KLAXON 12-L

As efficient as the Klaxon 20. Constructed for underhood installation.
List Price, - - - - - - - Each, $18.00



KLAXON 20-L

The finest Automobile Warning Signal made. Penetrating tone, remarkable construction. Needs practically no attention whatever.
List Price, - - - - - - - - - - - - Each, $32.00

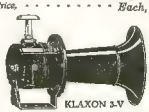
Klaxons are regularly furnished in all black. For all other finishes such as black and nickel, black and brass, etc. add $1.00 to the list prices. Electric Klaxons can be operated from dry cells or storage batteries. They are regularly wound for 6 volts. For special voltages up to 32 volts no extra charge is made

KLAXON 3

A hand-operated signal of the same quality and efficiency as the electrically operated instruments. Horizontal push rod.
List Price, - - - - - - - - - Each, $5.75

KLAXON 6

Slightly smaller in size than the Klaxon 12. Its construction is the crowning result of years of experience in building quality signals.
List Price, - - - - - - - - Each, $9.50



KLAXON 3-V

Vertical push rod. In every other respect the same as Klaxon 3.
List Price, - - - - - - - - Each, $5.75

"SPECIALS"

KLAXON 20-Deck

Klaxon 20-L with swivel-bracket. Constructed for installation on automobile running boards or for yachts and motorboats.
List Price, Each, $35.00

KLAXON 20-S

Same mechanical construction throughout as the Klaxon 20-L. The short projector makes practically no difference in tone.
List Price, - - - Each, $32.00

KLAXON 12-S

Same mechanical construction throughout as Klaxon 12-L. The short projector makes practically no difference in tone.
List Price, - - - - Each, $18.00

KLAXON 6-Deck

Klaxon 6 with swivel bracket. Constructed for installation on automobile running boards or for yachts or motorboats.
List Price, - - - Each, $11 25

The same—mechanically—as the Klaxon 6 but has a torpedo projector.
List Price, - - - Each, $8.00

KLAXON 5

The most reliable and powerful hand-operated signal ever made. Built especially for trucks and fire apparatus where sturdiness is essential and where the best obtainable is desired.
List Price, Each, $12.75

KLAXON 10

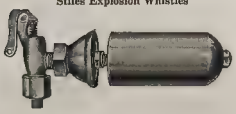
Same as Klaxon 3 but constructed with short projector for motorcycle use. Furnished with handlebar, frame or tank bracket.
List Price, - - - - - - Each, $5.50

KLAXON 3-M.C.

Same as Klaxon 3-V but constructed with short projector for motorcycle use. Furnished with handlebar, frame or tank bracket.
List Price, - - - - - - Each $5.50

KLAXON 3-V.M.C

Stiles Explosion Whistles



The Stiles adjustable explosion whistle is a perfect warning signal for passenger cars and trucks. It can be adjusted to any tone, the adjustable feature makes it possible to get the desired tone regardless of the compression of the motor.

Installed in place of priming cup except on Fords, where a special adapter is furnished to be used in connection with regular spark plug.

Operates by a cord attached to dash or steering wheel.

Fully guaranteed. Will last twice the life of any car.

Complete.....each, $4.00

Aermore Exhaust Horns

"The Signal with a Smile"

The clear, distinctive tone of the Aermore is easily heard above traffic, yet the chord is so harmonious and the signal so pleasant it never frightens or angers pedestrains.

It is carefully built and there is nothing to get out of order. Easily and quickly installed. Operates by exhaust gas so there is no expense for upkeep.

Tractor owners find the Aermore just the signal they want.

PATENTED
Aermore complete with Style "G" valve ready to attach.

Small horns should not be used on large cars as the excessive exhaust will make them shriek.

Always give size of valve desired (outside diameter of exhaust pipe) or name and model of car or tractor to which it is to be attached.

No. 0 17 in. Aermore outfit for cars of over 40 h. p., complete with Style G valve .....each, $12.00

No. 1 15 in. Aermore outfit for cars 30 to 40 h. p., complete with Style G valve .....each, 10.00

No. 2 13 in. Aermore outfit for cars 20 to 30 h. p., complete with Style G valve .....each, 9.00

No. 3 11 in. Aermore outfit for Fords and other light cars..each, 8.00

Style G Valves, made of malleable iron in sizes from 1¼ to 3¼ in. valve only .....each, 2.00

Pushwell Buttons

For fore door or surface mounting. Black finish.

No. 8189F .....each, $0.35

Pushwell Buttons

For steering wheel mounting. The steering wheel clamp mounting fits on a spoke of the steering wheel, and the button fastened within easy reach.

No. 8183J Black finish .....each, $0.45

E. A. Motor Driven Horns

Motor driven. Length 10 in., straight bell. All black enamel finish with bracket for inside attachment.

Model D .....each, $7.00

E. A. Motor Driven Horns

Motor driven. Length 12 in., straight bell. Black enamel finish, with bracket for inside attachment.

Model F .....each, $12.00

E. A. Motor Driven Horns

This horn has the straight bell. All black enamel finish with bracket for inside attachment. Length 10 in.

Ford Model 9 .....each, $7.00

Newtone Motor Driven Horns

Motor driven. Length 11½ in. Black enamel finish, with bracket for inside attachment.

Torpedo Model .....each, $15.00

Stewart Motor Driven Horns

Design and construction is the same as No. 136 except that it has a straight projector for underhood installation.

No. 136A .....each, $10.00

Stewart Hand Operated Signals

A high grade, effective, powerful warning signal with a vibrant, penetrating tone. One piece seamless bell. All parts riveted and bolted.

No. 114 All black finish ....each, $6.00

Stewart Hand Operated Signals

Operates by a slight pressure of the hand or finger on the plunger. Finished in black enamel. Furnished complete with bracket.

No. 151B .....each, $4.50

E. A. Hand Horns

Model A All black finish ...each, $4.50

*KNIGHT PORTABLE CIRCULAR SAW MILLS

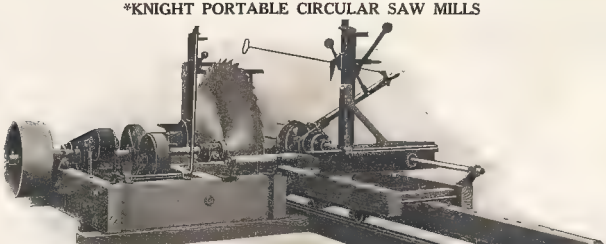


Fig. D1504

Style T with Style C1 Head Block, Ideal Single Mill Dog, No. 1 Ideal Single Ratchet Set Works and Belt Feed Husk

All Knight circular saw mills are equipped with variable belt feed works, which has a tightener pulley directly connected to the sawyer's lever, and controls the feed to suit the power of the engine, and the kind of timber to be sawed. Can be quickly changed within a range from 0 to 3¼ inches for the smallest mills up to 0 to 5¼ inches on the largest size mills, by allowing the feed belt to slip over the pulleys. The fast operating gig back increases the daily output of mills in a given time by reducing the time required in gigging back, which is always a loss of time. Mountings for the different sizes of mills are as follows: S has two style C1 36 inch opening head blocks, two pony excelsior mill dogs and No. 1 single ratchet set works. T has two style C1 36 inch or 42 inch opening head blocks, two No. 1 Ideal single mill dogs and one No. 1 single ratchet set works. T½ has two style A1 36 inch or 42 inch opening simultaneous or taper movement head blocks, two No. 1 Ideal single mill dogs and one No. 2 single ratchet set works. U has two style C1 36 in. or 42 inch opening head blocks, two No. 1 Ideal single mill dogs and one No. 2 single ratchet set works V has two style A1 36 inch or 42 inch opening simultaneous or taper movement head blocks, two No 2 Ideal single mill dogs, one No. 2 double ratchet set works. Frames of husks and carriage are built of long leaf yellow pine lumber, securely bolted. Irons for track All carriages 16 feet long and with wood drum. Cable drive attachment, unless otherwise specified, but no way timbers.

Sizes and Specifications

Sizes	S	T	T½	U	V
Price with 36 inch head blocks, no saw or way timbers, carriage 33 inches wide, each,	$577.00	$702.00	$817.00	$876.00	$1355.00
Price with 42 inch head blocks, no saw or way timbers, carriage 42 inches wide, each,		724.00	834.00	892.00	1372.00
Husk length, feet	6¼	6½	6½	7½	8
Husk width, feet	3	4	4	4½	5⅞
Mandrel length, inches	55	65	65	74	82
Mandrel diameter, inches	2⅛	2⅛	2⅞	2⅛	3⅞
Extension mandrel, inches	...	...	...	21⅛ x 74	3⅛ x 82
Top saw mandrel, inches	...	...	...	2 x 64	2½ x 70
Drive pulley, inches	20 x 10	20 x 12	20 x 12	22 x 12	24 x 14
Lumber rolls, inches	...	...	...	...	4 x 20
Gig back, inches	5¼	9¼	9¼	11½	13
Gig back, feet per minute	500	490	490	660	580
Feed belt width, inches	4	4	4	...	6
Top saw belt width, inches	..	..	...	...	8
Gig frictions, width, inches	..	..	...	...	6
Roller wedge diameter, inches	..	..	...	...	14
Feed shaft diameter, inches	...	...	...	...	1⅞
Feed per revolutions of saw	0 to 3¼	0 to 3¼	0 to 3½	0 to 4½	0 to 5¼
Largest admissible saw, single mill	56	60	60	62	64
Largest admissible saw, double mill	...	...	...	60 bottom, 30 top	62 bottom, 30 top
Carriage timbers size, inches	4 x 6	4 x 6	4 x 6	5 x 6	6 x 6
Truck wheels diameter, inches	7	8	8	9	10
Shipping weight, pounds	2750	3360	3560	4520	5845
Maximum capacity per day, feet	5000	9000	9000	11500	20000
Horsepower capacity	5 to 15	10 to 25	10 to 25	20 to 35	35 to 60

Rack and pinion drive can also be furnished with any of above mills.
All mills are made right or left hand. Right hand will always be shipped unless left hand is specified.
Saws and main belts are not included with mills unless specified in the order as extras.
Where a mill is ordered without saw, be sure to give size of saw to be used; also speed of engine and size of drive pulley; also speed for which saw to be used is hammered.
Saw voyage is furnished with all solid tooth saws ordered with mills, but not with inserted tooth.
Special saw mill machinery catalog sent upon request.
*Not carried in stock; will ship from factory.

Lane's Super Unique Socket Wrench Sets

Consists of seventeen pieces as follows:
1—9 in. drop forged ratchet wrench.
1—8 in. extension bar with fixed socket.
15—Case hardened steel sockets with broached hex. openings, $\frac{7}{16}$ to $1\frac{1}{4}$ in.

This set has sockets for all regular S. A. E. caps, screws and hexagon nuts. Its range on U. S. S. cap screws is from $\frac{1}{4}$ to 1 in. and hex. nuts from $\frac{7}{16}$ to $\frac{3}{4}$ in. (except $\frac{11}{16}$ in.).

Set is packed complete in a strong hardwood box. Weight 6 lbs.

Super unique, set complete.....**$12.00**

Lane's Style "F" Ratchet Socket Wrench Sets

Formerly Lane's Ford set. Consists of ten pieces.

1—7 in. reversible ratchet wrench.
1—6 in. extension bar.
6—Sockets to fit all hex. nuts, cap screws and cylinder heads on Ford engine.
2—Screw driver bits.

Socket No.	Broached Hex. Open	Hex Nuts U. S. S.	S. A. E.	Cap Screws U. S. S.	S. A. E.
1	$\frac{7}{16}$	$\frac{1}{4}$	$\frac{7}{16}$	$\frac{7}{16}$	$\frac{7}{16}$
2	$\frac{7}{16}$	..	$\frac{9}{16}$	$\frac{9}{16}$	$\frac{9}{16}$
4	$\frac{9}{16}$	..	$\frac{7}{16}$	$\frac{7}{16}$	$\frac{7}{16}$
5	$\frac{11}{16}$	$\frac{5}{16}$	..	..	..
6	$\frac{3}{4}$	..	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
7	$\frac{7}{8}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{9}{16}$	$\frac{9}{16}$

Packed in strong black Keratol case, wt. 28 oz.

Style "F" Set, complete.....**$4.00**

Billmont Master Wrench Sets

The Billmont Master Wrench is adaptable for use wherever there are nuts and bolts to be tightened or loosened. It has the universal Billmont nose piece, a special ring in the socket holder permitting any size Billmont socket to be easily snapped in or removed. The nose, turned at an angle at the end of a long straight shank makes it easy to reach most difficult places.

The heavily nickeled and knurled outer steel tube is stationary, offering a firm grip. The solid T bar handle slides back and forth to pass any obstruction and gives tremendous power. All exposed parts are Parkerized, giving lasting life and utility.

No. 1 Master wrench set contains
1—Master wrench.
1—Standard socket adapter.
5—Interchangeable sockets, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{9}{16}$, $\frac{11}{16}$, $\frac{3}{4}$ hexagon.

Packed complete in a wooden case.

No. 1 Set, complete **$10.50**
No. 0 Master wrench only..... **8.00**

Lane's Style "S" Ratchet Socket Wrench Sets

Formerly Lane's Standard Set. An ideal set for every car owner and mechanic. Contains ten pieces.

1—7 in. reversible ratchet wrench.
2—Screw driver bits.
7—Sockets which fit all S. A. E. and U. S. S. sizes as listed.

Socket No.	Broached Hex. Open	Hex Nuts U. S. S.	S. A. E.	Cap Screws U. S. S.	S. A. E.
1	$\frac{7}{16}$	$\frac{1}{4}$	$\frac{7}{16}$	$\frac{7}{16}$	$\frac{7}{16}$
2	$\frac{7}{16}$	..	$\frac{9}{16}$	$\frac{9}{16}$	$\frac{9}{16}$
3	$\frac{13}{16}$	$\frac{5}{16}$	..	..	..
4	$\frac{9}{16}$	..	$\frac{7}{16}$	$\frac{7}{16}$	$\frac{7}{16}$
5	$\frac{11}{16}$	$\frac{3}{8}$	..	..	..
6	$\frac{3}{4}$	..	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
7	$\frac{7}{8}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{9}{16}$	$\frac{9}{16}$

Packed in strong black Keratol case, weight 23 oz.

Style "S" Set, complete.....**$4.00**

Big Ten Wrench Sets

Consists of ten wrenches adaptable for 78 different purposes.

This is an excellent set for garages as it will cover almost every requirement.

Packed in a canvas roll. Consists of following wrenches, semi-finished.

No.	S. A. E. Nuts and Cap Screws	U. S. S. Nuts	U. S. S. Cap Screws Diam.	Length	Each
721	....	$\frac{1}{4}$	$\frac{3}{8}$ & $\frac{7}{16}$	$3\frac{1}{16}$	$0.17
23	$\frac{7}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$	4	.21
725A	$\frac{1}{4}$ & $\frac{5}{16}$	..	$\frac{1}{4}$ & $\frac{5}{16}$	$4\frac{5}{16}$	.25
27	....	$\frac{7}{16}$ & $\frac{1}{2}$	..	$5\frac{5}{16}$	.31
729	$\frac{7}{16}$ & $\frac{1}{2}$	..	$\frac{7}{16}$ & $\frac{1}{2}$	$6\frac{5}{16}$	.37
731B	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{7}{16}$ & $\frac{5}{8}$	$7\frac{5}{16}$	.43
32	....	$\frac{7}{16}$ & $\frac{5}{8}$	..	$8\frac{5}{16}$	.55
33C	$\frac{5}{16}$ & $\frac{3}{8}$	..	$\frac{3}{4}$	$8\frac{5}{16}$	.55
737	$\frac{7}{16}$	$\frac{5}{8}$	$\frac{7}{16}$ & 1	$11\frac{5}{16}$	.96
738	$\frac{5}{8}$ & 1	$\frac{7}{16}$ & $\frac{5}{8}$	..	$13\frac{1}{2}$	1.49

No. 10 Set, complete.....**$5.22**
Canvas roll..... .. ..extra, **.60**

Billmont Master Wrench Sets

The Billmont Master Wrench Set No. 100 is complete and especially suitable for garage work, as the great variety of sockets cover almost every requirement. Consists of following:

1—Master wrench.
1—Socket adapter.
24—Interchangeable sockets, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{9}{16}$, $\frac{5}{8}$, $\frac{11}{16}$, $\frac{3}{4}$, $\frac{13}{16}$, $\frac{7}{8}$, $\frac{15}{16}$, 1, $1\frac{1}{16}$, $1\frac{1}{8}$, $1\frac{3}{16}$, $1\frac{1}{4}$ hexagon, and $\frac{7}{16}$, $\frac{1}{2}$, $\frac{9}{16}$, $\frac{5}{8}$, $\frac{11}{16}$, $\frac{3}{4}$ square.

Packed complete in a wooden case.

No. 100 Set, complete.....**$20.50**

Standard Automotive Wrench Sets

With Openings for Popular S. A. E. and U. S. Standard Nuts and Cap Screws

Any number of individual wrenches may be selected from the following list.

No.	For S. A. E. Standard Nuts and Cap Screws Openings Milled	For U. S. Standard Nuts	For Cap Screws	Extreme Length	Thickness Heads	Semi-finished
725	$\frac{7}{16}$ & $\frac{1}{2}$	$\frac{1}{4}$ & $\frac{7}{16}$	$\frac{1}{4}$ & $\frac{7}{16}$	$4\frac{7}{16}$	$\frac{7}{32}$	$0.25
727	$\frac{7}{16}$ & $\frac{9}{16}$	$\frac{5}{16}$ & $\frac{7}{16}$	..	$5\frac{7}{16}$	$\frac{7}{32}$	.31
731A	$\frac{9}{16}$ & $\frac{5}{8}$	$\frac{7}{16}$ & $\frac{1}{2}$	$\frac{7}{16}$ & $\frac{9}{16}$	$7\frac{7}{16}$	$\frac{13}{32}$	.45
33C	$\frac{13}{16}$ & 1	$\frac{9}{16}$ & $\frac{11}{16}$	....	$8\frac{5}{16}$	$\frac{7}{16}$	.55
37	$1\frac{7}{16}$ & $1\frac{1}{4}$	$\frac{3}{4}$ & $\frac{7}{8}$	$\frac{5}{8}$ & $\frac{3}{4}$	1	$11\frac{1}{2}$	$\frac{7}{16}$	.96

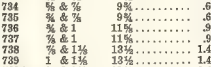
No. 5-S Set **$2.52**
Roll .... extra, **.45**

Light Cap Screw Wrenches

15° Double Head
For Hexagon Head Cap Screws

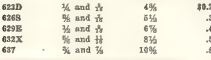
No.	Diam. Screws Inches	Length Inches	Semi-finished
721	1/8 & 5/32	3 1/2	$0.17
722	5/32 & 1/4	4	.21
723	5/32 & 1/4	4	.21
725A	5/32 & 5/32	4	.21
725	1/4 & 5/16	4 7/8	.25
725A	1/4 & 5/16	4 7/8	.25
725B	1/4 & 5/16	4 7/8	.25
726	5/16 & 3/8	5 1/8	.31
727	5/16 & 3/8	5 1/8	.31
728	3/8 & 1/2	6 1/8	.37
729	3/8 & 1/2	6 1/8	.37
730	3/8 & 7/16	7 1/8	.45
731	1/2 & 5/8	7 1/8	.45
731A	1/2 & 5/8	7 1/8	.45
731B	1/2 & 5/8	7 1/8	.45
732	1/2 & 5/8	8 1/8	.55
733	5/8 & 3/4	8 1/8	.55
734	5/8 & 7/8	9 1/8	.68
735	3/4 & 7/8	9 1/8	.68
736	3/4 & 1	11 1/8	.96
737	7/8 & 1	11 1/8	.96
738	7/8 & 1 1/8	13 1/8	1.40
739	1 & 1 1/8	13 1/8	1.40
739A	1 & 1 1/4	13 1/8	1.40
739B	1 1/8 & 1 1/4	13 1/8	1.40

Double Head Thin Wrenches



No.	For S. A. E. Standard Nuts Inches	Length Inches	Semi-Finished
622D	1/4 and 5/16	4 3/8	$0.25
626S	3/8 and 7/16	5 1/8	.32
629E	1/2 and 5/8	6 1/8	.46
632X	5/8 and 11/16	8 1/8	.56
637	3/4 and 7/8	10 3/8	.84

Engineers' Double Head Wrenches



15° angle, double head, with opening for U. S. standard finished nuts.

No.	Bolt Sizes	Milled Openings	Length finished Inches	Semi-finished Each
21	1/8 & 5/32	5/32 & 3/16	2 1/2	$0.17
22	1/8 & 1/4	5/32 & 1/4	4	.21
23	5/32 & 1/4	3/16 & 7/32	4	.21
24	5/32 & 5/32	3/16 & 3/16	4 1/8	.25
25	1/4 & 5/16	1/4 & 5/16	4 7/8	.25
26	1/4 & 3/8	1/4 & 11/32	5 7/8	.31
27	1/4 & 3/8	11/32 & 11/32	5 7/8	.31
28	5/16 & 5/16	11/32 & 11/32	6 1/8	.37
29	3/8 & 7/16	11/32 & 13/32	6 7/8	.37
30	3/8 & 1/2	11/32 & 7/16	7 3/8	.45
31	7/16 & 1/2	13/32 & 7/16	7 3/8	.45
32	1/2 & 9/16	13/32 & 15/32	8 1/8	.55
33	1/2 & 5/8	7/16 & 31/64	8 3/8	.55
34	1/2 & 5/8	7/16 & 1 7/32	9 3/8	.68
35	1/2 & 5/8	31/64 & 1 7/32	9 3/8	.68
36	7/16 & 3/4	31/64 & 1 5/64	11 1/8	.96
37	5/8 & 3/4	1 7/32 & 1 5/64	11 1/8	.96
38	5/8 & 7/8	1 7/32 & 1 7/32	13 1/8	1.40
39	3/4 & 7/8	1 5/64 & 1 7/32	13 1/8	1.40
40	3/4 & 1	1 5/64 & 1 9/64	15 1/8	1.90
41	7/8 & 1	1 7/32 & 1 9/64	15 1/2	1.90

Double End Spark Plug Wrenches

Pressed steel, case hardened, two sizes in one, 10 in a box.

No.	Openings	Each
2931	13/16 and 7/8	$0.55
2933	7/8 and 15/16	.55
2937	7/8 and 1 1/16	.55
3137	13/16 and 1 1/16	.55

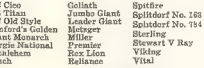
Spark Plugs Used On

No. 2931	No. 3137
All in One	AC Cleo
Auburn, Ford Size	AC Titan
Auburn, Long Heavy	AC Old Style
Benton	Auburn
B. G. Nonsbestable	Benford's Golden
Breech Block	Bergie National
Brown	Beach
Champion O	Giant Monarch
Champion Toledo	Goliath
Champion X	Jumbo Giant
Harvard	Kopper King
Kopper King	Leader Giant
Liberty	Mosier
Mosier	Rex Lion
Mosler Superior	Splitdorf No. 784
Perfection	Splitdorf No. 163
Rajah	Sterling
Red Head	Steward V Ray
Reflex	Viking
Symonds	Vital
Splitdorf (Code No 145)	

No. 2933		
AC Cleo	Breech Block	Mosler
AC Titan	Brown	Norwalk
All in One	Dorf	Perfection
A. V. Regular	Fobat	Red Head
Benton	Hess Bougie	Scotless
Bethlehem	Mercedes	Splitdorf No. 145

No. 2937		
AC Cleo	Goliath	Spitfire
AC Titan	Jumbo Giant	Splitdorf No. 163
AC Old Style	Leader Giant	Splitdorf No. 784
Benford's Golden	Mcksprt	Sterling
Giant Monarch	Miller	Stewart V Ray
Bergie National	Premier	Viking
Betalehem	Rex Lion	Vital
Bosch	Reliance	

Magneto Wrench Sets



This is a real magneto wrench kit and should be in the possession of every garage man.

A useful kit put up in a folding canvas cover.

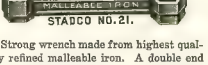
Consists of twelve tools (magneto wrenches, keys, screwdriver and a contact aligner).

Each wrench is stamped with the name of the magneto it will fit and the set will cover the following systems:

Bosch	Eiseman
Connecticut	Remy
Delco	Simms
Ford	Splitdorf

No. W6 .....per set, $2.50

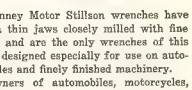
Stadco Spark Plug Wrenches



Strong wrench made from highest quality refined malleable iron. A double end wrench that can be used on practically every spark plug.

	Each
No. 21.....	$....

Bonney Motor Stillson Wrenches



Bonney Motor Stillson wrenches have extra thin jaws closely milled with fine teeth and are the only wrenches of this type designed especially for use on automobiles and finely finished machinery.

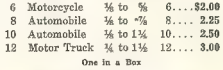
Owners of automobiles, motorcycles, repairmen and garage men quickly appreciate the advantages of these wrenches.

Made from finest materials, exact and accurate in every detail. Made in four sizes. Packed in individual cartons.

Size No.	Type Wrench	Takes Round Part, In.	Length Open In.	Each
6	Motorcycle	1/8 to 5/8	6....	$2.00
8	Automobile	1/8 to 7/8	8....	2.25
10	Automobile	1/8 to 1 1/4	10....	2.50
12	Motor Truck	1/4 to 1 1/2	12....	3.00

One in a Box

Sextet-Reach Sets



This is a set of thin wrenches specially designed and made of 1/16 in. steel.

It consists of six double end wrenches, giving 12 sizes fastened together by a knurled thumb screw when not in use.

They are nickel plated and polished all over.

The smallest wrench is 2 1/2 in. long, the largest 4 1/2 in. long. The openings are the following sizes. Each size stamped on the wrench.

5/32	3/16	11/64	13/64	15/64	17/64
1/4	5/16	3/8	7/16	1/2	5/8

With each unit package of 15 wrenches a lithographed display stand 10 1/4 x 6 1/2 x 5 3/4 in. is furnished free. Wrenches packed inside the stand.

Sextet-Reach Sets.....each, $0.75

REACH BASEMEN'S MITTS

SPECIAL MODEL

Reaco brown tan horse hide, one piece face. Hand made hinge padding. Leather laced and bound. Adjusting strap and buckle at thumb Medium padding, with deep, flexible pocket.

No.4S. Weight 20 oz ,each, **$13.00**

HINGE MODEL

Olive Reaco grain leather. Glove thumb. Hand formed hinge pad. Leather binding and lacing Buckle and adjusting strap on thumb. Medium padding.

No.4B. Weight 17½ oz., ea., **$8.00**

GRABBER MODEL

Brown mitten leather. Hand made pad. Leather laced, double stitched seams. Thumb strap adjustment. Full size.

No.R. Weight 18 oz..Each, **$5.00**

REACH AMATEUR MODEL

Black leather face. Khaki back and finger pocket. Leather laced around entire edge Thumb strap adjustment. Hand made pad.

No.3R. Weight 13½ oz..each, **$3.50**

REACH FIELDERS' GLOVES

PATENT LACED MODEL

Special drab Reaco horse hide. Lined with soft glove leather. Leather binding, welted seams. Fitted with King patent lacing device for change of padding. Extra layer of padding with each glove.

No. KG. Weight 20 ounces. ....each, **$11.00**

No. OBL. Weight 13 ounces... .....each, **10.00**

REGULATION MODEL

Drab horse hide. Lined with soft glove leather. Leather binding. Welted seams. Made on the OBL model. Medium padding. Requires no breaking in.

No.SW. Weight 12 oz..each, **$9.00**

See note at bottom of next column.

All above, one in a box

REACH FIELDERS' GLOVES

SPECIAL LACED MODEL

Selected black grain glove leather. Leather lining. Leather binding. Welted seams. The lacing device permits rearrangement of padding. Medium padded in heel and fingers.

No. 72. Weight 13½ oz...each, **$7.00**

SEMI-PRO MODEL

Special olive tan glove leather, full leather lining. Welted seams. Made on No. OBL model, with medium padding and flexible pocket.

No. 9G. Weight 13½ oz...each, **$6.00**

LACED MODEL

Brown tan glove leather. Leather palm lining. Laced wrist permits adjustment of padding. Is made on a duplicate model of higher grades.

No. 10G. Weight 12 oz...each, **$4.00**

See note at bottom of column.

YOUTHS' SPECIAL MODEL

Brown tan leather. Khaki lined, with leather palm lining. Welted seams

No. 54. Weight 7½ oz...each, **$3.00**

BOYS' SPECIAL MODEL

Made of glove leather, full size youths' model. Well padded with felt. Leather palm lining.

No.18C. Weight 2½ oz..each, **$2.00**

All above, one in a box

NOTE—All gloves and mitts are made in rights and lefts. Lefts are **regular**, and are used by players who throw with their right hand; rights are called "full rights," and are used by players who throw with their left hand. "Full rights" carried in stock only in No. SW and No. 10G gloves and all others in stock are regular, but can ship any in "full rights" from factory.

BASEBALL BATS

No. 40TC Ty Cobb Model. Hand made of extra selected second growth mountain white ash, highly polished, golden finish. Gradual tapered barrel with thin handle. Exact model used by Cobb for 12 years. None genuine without registered trade mark, photo and autograph transfer of Ty Cobb Length 32 to 36 in., assorted weights....per dozen, **$30.00**

One in a paper bag, three dozen in a crate
Weight 100 pounds

No. 40 Louisville Slugger. Hand turned, made of selected second growth ash, straight grained, natural finish, highly polished. Assorted models, lengths 32 to 36 inches, assorted weights, per dozen, **$30.00**

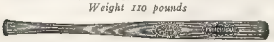
One in a paper bag, three dozen in a crate
Weight 100 pounds

No. 100T Cherokee. Hand turned, selected second growth ash, straight grained, golden finish, highly polished. Taped handle, assorted models. Lengths 32 to 36 inches, assorted.....per dozen, **$21.00**

One in a paper bag, three dozen in a crate
Weight 110 pounds

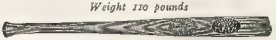
No. 100 Professional Model. Hand turned, second growth ash, straight grain, natural finish, highly shellac polished. Assorted models. Lengths 32 to 36 inches, assorted weights .....per dozen, **$21.00**

One in a paper bag, three dozen in a crate
Weight 110 pounds



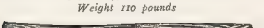
No. 75 Safe Hit. Made of second growth white ash, straight grained, natural shellac finish, highly polished. Transfer and branded. Lengths 32 to 36 inches, assorted weights .....per dozen, **$18.00**

One in a paper bag, three dozen in a crate
Weight 110 pounds



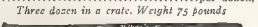
No. 50 King of the Field. Second growth ash, straight grained, new golden finish, highly polished, with transfer and branded. Lengths 32 to 35 inches, assorted weights .....per dozen, **$12.00**

One in a paper bag, three dozen in a crate
Weight 110 pounds



No. 025 Boy's Model. Made of ash, flame burnt, golden finish, highly polished. Length 32 inches.....
.....per dozen, **$6.00**

Three dozen in a crate. Weight 75 pounds



No. 10 Crackerjack. Made of ash, green stained, highly polished. Length 28 inches.....per dozen, **$3.00**

Six dozen in a crate

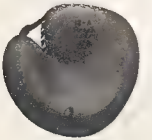
SHOE PLATES

Reach Special

Hand forged tempered steel, beveled edge and points. Will not bend or break. Complete with screws.

No. 1T. Toe plates, weight 4 ounces.....per pair, **$0.75**
No. 1H. Heel plates, weight 3 ounces.....per pair, **.75**

REACH CATCHERS' MITTS



PERFECT CATCHERS'

Double face, moulded model. Made entirely of finest selected Reaco brown calfskin Fitted with patent holdfast back and King adjustable, hand formed padding. Leather binding and leather welted seams. Strap and buckle thumb adjustment.

No. 12A. Weight 39 ounces .
.....each, **$25.00**

MOULDED MODEL

Made of Reaco brown tan horsehide. Full moulded face and pocket. Leather binding and lacing Special hand formed padding, forming deep pocket. Reinforced back. Strap and buckle at thumb. Leather extension on back protects wrist.

No. 41. Weight 38 ounces...
.....each, **$16.00**

LEAGUE MODEL

Made with brown tan Reaco horsehide face and fingers. Brown leather back. Cowhide strip. Leather laced. Strap and buckle thumb adjustment. Double stitched. Strap and buckle with buckle protector at wrist. Full size, regulation model.

No. BP. Weight 34 ounces..
.....each, **$9.00**

ASSOCIATION MODEL

Face and fingers are made of brown tan mitten leather. Black leather back and strip. Leather laced. Double stitched seams on strip and fingers. Strap and buckle back, with protector at wrist. Strap and buckle thumb adjustment. Regulation model.

No. 200. Weight 25 ounces...
.....each, **$7.00**

MEN'S AMATEUR MODEL

This mitt has an olive tan mitten leather face and fingers and wine leatherette back and strip. Laced edge. Strap and buckle at wrist. Laced pieces between thumb and body of mitt. Medium size model.

No. FP. Weight 28 ounces...
....each, **$4.00**

JUNIOR MODEL

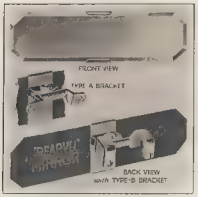
Tan leather face and fingers. Khaki back. Leatherette strip. Strap and button at wrist. Lacing adjustment at thumb. Youth's size.

No. 65X. Weight 13½ ounces
. ...each, **$2.00**

All above, one in a box

See note at bottom of right hand column on following page.

"Rearvu" Mirrors



"Rearvu" Mirrors are best grade of beveled plate glass. Brackets are constructed so that mirrors may be tipped to right or left, up or down, giving a full rear view.

Type A brackets are for enclosed cars.

Type B brackets are for open cars.

With Type A bracket.....each, $3.50
With Type B bracket.....each, 3.50
With Type C bracket (narrow type) for windshields up to ⅝ in. each, 3.50

Windshield and Fender Mirrors

No. 297B

No. 307B

Windshield Type

Beveled clear glass. All black or black and nickel finish. Diameter 5½ in. Length of bracket 6½ in.

No. 297B...each, $3.00

Fender Type

Beveled clear glass. Diameter 5½ in.

No. 307B...each, $3.00

Doctors' Cross Radiator Ornament

Height 4 in., width 3 in. Green center, with frame of cross, outside tire and base gold.

No. 8063G ....
....each, $2.00

Winged Wheel Radiator Ornaments

Height ....in., 8½
Width ....in., 4½
Gold or nickel finish.

No. 6935.....each, $2.00

Key Wind, Eight Day Clocks

Standard eight-day movement with non-glaring silver etched metal dial.

Dial ... .in., 2¼
Base ... .in., 2½
Cowl Ring....in., 3½
Length of clock behind ring.in., 1⅝

New Haven Cowl.....each, $12.25

Stem Wind, Thirty Hour Clocks

Panama

Adapted to small cowl boards, a No. 16 size watch is used

Base .....in., 3
Height ... in., ¾

Black and nickel.

Each $4.75

One in a Box

Stem Wind, Thirty Hour Clocks

Frisco

Beveled crystal, concealed winding stem. Sets flush with dash.

Dial.....in., 2½
Base.....in., 2⅝
Length of clock behind cowl ring.... in., 1¾
Cowl ring.....in., 8⅝
Black and nickel

No. 2.....each, $5.50

One in a Box

Rim Wind, Rim Set, Eight Day Clocks

Dial .....in., 2¼
Base .....in., 2½
Cowl Ring..in., 3½
Length of clock behind ring.in., 1¼
Black and nickel

No. 12B Cowl ....each, $14.50

Dash Board Cutters

A tool for cutting circular holes in all metal or wood dash boards for inserting clocks, speedometers, etc. A necessary item to an efficient garage or accessory store. Can be used in either a hand brace or in an electric drill.

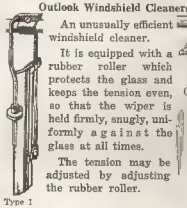
Each $5.00

Clear Vision Windshield Cleaners

Consists of a spring wire frame with broad pointed rubber shoe which prevents wabbling. A steel frame with two parallel wiping strips of pure rubber fastens to the wire frame with a cotter pin. Finished in a high grade baked rubber enamel.

Each $0.65

Outlook Windshield Cleaners



An unusually efficient windshield cleaner.

It is equipped with a rubber roller which protects the glass and keeps the tension even, so that the wiper is held firmly, snugly, uniformly against the glass at all times.

The tension may be adjusted by adjusting the rubber roller.

Type 1 Type 2

Type 1 Fits practically any open car. Fastens over windshield frame .....each, $2.00

Type 2 Fastens through the glass. Suitable for any type car. Neat and attractive .....each, $2.00

QUEENSWARE

CRANBERRY PACKAGE - DECORATION NO. 205
C. M. McCLUNG & CO
KNOXVILLE, TENN.
1 Doz. 1 Pt. Bowl
1 Doz. 9" Oval Vegetable Baker
30 Sets 9" Plates
40 Sets Cup & Saucer
1/3 Doz. Gravy Boats
1 Doz. Meat Platters 11 3/4 13 3/4
4 Sets 8" Plates
4 Sets 8" Coup Soups
1/3 Doz. Sugars
1/3 Doz. Creams
2 Doz. 8 1/4" Salads
1/3 Doz. 3 Pt. Pitchers
2 Doz. 9 1/2" Salads
4/3 Doz. 1 qt. Pitchers
1/2 Doz. Cov'd Vegetable Dish

CRANBERRY PACKAGE

(Weight 630 pounds)

40 Sets cups and saucers.
30 Sets 9 inch plates.
4 Sets 8 inch plates.
4 Sets 8 inch Coup. soups.
1 Dozen 1 pint bowls.
2 Dozen 8¼ inch salads.
2 Dozen 9½ inch salads.
1 Dozen 11¾ inch cold meat platters.
1 Dozen 13¾ inch roast meat platters.
1 Dozen 9½ inch oval vegetable bakers.
⅓ Dozen gravy boats.
½ Dozen covered vegetable dishes.
½ Dozen covered sugar bowls.
⅔ Dozen cream pitchers.
⅔ Dozen 1 quart pitchers.
⅔ Dozen 3 pint pitchers.

This is a beautiful pattern in an attractive combination of three colors: Pink, blue and gold. It will please you and your customers.

Prices on application

QUEENSWARE

MILLER PACKAGE - DECORATION No. 108
C. M. McCLUNG & CO
KNOXVILLE, TENN.
1 Doz. 1 pt Bowls
1 Doz. 9" Oval Vegetable Baker
30 Sets 9" Plates
1/3 Doz Gravy Boat
40 Sets Cup & Saucers
2 Doz. Meat Platters 11 3/4
" " 13 3/4
4 Sets 8" Plates
4 Sets 8" Coup Soups
1/3 Doz. Sugars
1/3 Doz. Creams
2 Doz 8 3/4" Salads
1/3 Doz 3 Pt. Pitcher
2 Doz 9 1/2" Salad
1/3 Doz 1 qt. Pitcher
1/3 Doz Cov'd Vegetable Dish

MILLER PACKAGE

(Weight 630 pounds)

40 Sets cups and saucers.
30 Sets 9 inch plates.
4 Sets 8 inch plates.
4 Sets 8 inch Coup. soups.
1 Dozen 1 pint bowls.
2 Dozen 8¾ inch salads.
2 Dozen 9½ inch salads.
1 Dozen 11¾ inch cold meat platters.
1 Dozen 13¾ inch roast meat platters.
1 Dozen 9½ inch oval vegetable bakers.
⅓ Dozen gravy boats.
⅓ Dozen covered vegetable dishes.
⅓ Dozen covered sugar bowls.
⅓ Dozen cream pitchers.
⅓ Dozen 1 quart pitchers.
⅓ Dozen 3 pint pitchers.

This plain design ware with the gold and blue stripes as decoration will prove very pleasing to those of modest taste

Prices on application

Weed Chain Pliers

For repairing Weed Tire Chains. Easy to open and close the hooks of the cross chains while the chain is on the tire.

Each $0.75

Emergency Mud Hooks

Made of malleable iron, can be put on when wheel is in deep mud. Invaluable for use in mud, sand, or snow. Weight 5 lb. Price includes straps.

		Per Pair
No. 1	For 3 and 3½ in. tires....	$2.30
No. 2	For 4 and 4½ in. tires....	2.50
No. 3	For 5 and 5½ in. tires....	3.10

Pull-U-Out Outfits

A device for freeing stuck automobiles, etc. Outfit consists of hoists, cable, chains and three stakes.

No. 1 is used for pleasure cars

No.	Capacity Tons	Will Lift Feet	Length of Cable Feet	Length of Chain Feet	Each
1	1	10	40	14....	$35.00

Simplex Jacks

An ideal jack for light pleasure cars. Simple, durable, light in weight yet thoroughly dependable.

Capacity ¾ ton, height 10 in., lift 6½ in., weight 4¾ lbs.

No. 36...each, $3.00

Simplex Jacks

This jack is fitted with an adjustable shoe which locks firmly at seven different heights. All malleable iron construction. Has short fulcrum and perpendicular pawl action under positive piano wire pressure.

Capacity 1 ton, height 10½ in., lift 6 in., weight 6½ lbs.

No. 38....each, $4.00

Simplex Auto Jacks

The popular size jack for medium and heavy pleasure cars.

It is the strongest, safest and most dependable jack of its capacity on the market. Every working part is a drop steel forging, carefully machined.

Three points of lift, cap, lower foot and steel removable rotating shoe. It is a very powerful and quick acting jack. Has a 14 inch steel lever bar. Capacity 1½ tons, height 10 inches, lift 7 inches, weight 13 lbs.

Each

No. 41 .....$6.50

One in a Box

Simplex Auto Jacks

Heavy model jack of very strong and sturdy construction. Every working part is drop forged from medium carbon steel and all are carefully machined.

Standard is of finest malleable iron. Pawls and rack bar are machine cut, insuring smooth and positive action.

The jack is easy operating and works on up and down stroke of 18 inch steel lever bar.

Outfit has a lifting capacity of 2 tons; stands 11½ inches high; lifts to a height of 8½ inches and weighs, boxed, 15 lbs.

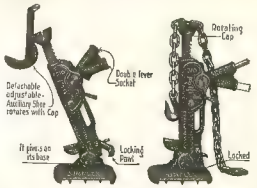
Each

No. 42 .....$7.50

One in a Box

Simplex Emergency Jacks

This emergency jack is a single acting, 15 ton outfit of extraordinary utility and efficiency. Its pivoting base enables jack to be operated at full capacity, at any angle from horizontal to vertical as well as vertically.



The steel detachable shoe and 5 feet of special chain attachment permit grappling and engaging loads in awkward or difficult positions, and where ordinary lifting jacks, many times, could not operate at all. Heavy calks on base prevent slipping.

Outfit is provided with four lifting and pushing points, viz: rotating cap, lower lift, steel adjustable shoe, and steel chain, thus enabling jack to meet every emergency condition. Capacity 15 tons, lift 12½ inches, height 21½ inches, weight of jack 59 lbs., chain, bar and shoe 80 lbs.

Each

No. 310 .....$52.00

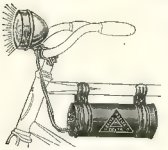
The illustrations shown herewith give an idea of the adaptability of this jack. It is especially useful for electric and steam railways, for emergency and shop use and for motor truck fleet owners.

Extricating Truck

Removing Journal Brasses or Boxes on Freight Car

BICYCLE LAMPS

DELTA

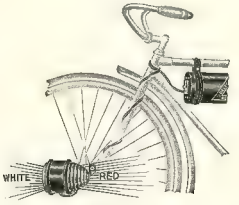


Consists of headlight, battery box and insulated wire. Headlight drawn from one piece of brass, baked black enamel, 4¼ inches diameter; has silver plated parabolic reflector, extra heavy lens 3¼ inches diameter. Delta bulb with drawn tungsten wire filament and candelabra base sheet steel battery box for one dry cell. Switch is on battery case Terminals for wire and clamps for frame. Headlight turns on spring washer. Fitted with universal brackets.

No. 27. Delta Electric Headlight Outfit, less battery.

....each, **$2.40**

One in a box



DELTA

One cell combination head and tail lamp. Powerful front light, red in rear. Fits any bicycle instantly, under axle nut, front left side. Rubber shock absorber at base of bulb. Moisture proof switch, snap "on" and "off" located on battery case. Parabolic reflector, diameter 3¼ inches with improved lamp socket. Weatherproof wires. Wing nuts. Mazda screw base bulb. Battery case may be inverted if bicycle frame is two-rod. Black enamel finish.

No. 80. Delta Electric Bicycle Lamp, less battery, each, **$2.40**

One in a box

SOLAR

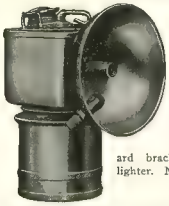
Full nickel plated on brass. New valve turns off both gas and water. Burns six hours on one filling of water. Carbide capacity three ounces of lump carbide. Produces a light that projects 100 feet. Removable aluminum reflector 1½ inches diameter. Double convex lens 2⅛ inches diameter. Ruby and green jewel side lights.

Solar Acetylene Bicycle Lamp. Each..... ..**$5.40**

One in a box

BICYCLE LAMPS

SHANKLIN



An open frame lamp without glass or door. The horizontal burner projects the flame forward, throwing the light where wanted. The flame protector holds the light no matter how strong the wind blows. Equipped with Guy's dropper water feed. Fits standard brackets. Equipped with self lighter. Nickel plated.

Shanklin Acetylene Bicycle Lamp. Each.. .. ..**$2.00**

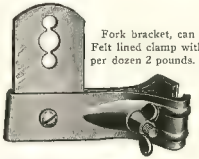
One in a box

BICYCLE LAMP BRACKETS

Heavy sheet steel and wire. Felt lined frame clamp with thumb screw. Nickel plated. Weight per dozen 1½ pounds.

Head Bracket. Per dozen.....**$2.00**

One dozen in a box



Fork bracket, can be used on either side. Felt lined clamp with thumb screw. Weight per dozen 2 pounds.

Fork Bracket. Per dozen..... . ...**$2.00**

One dozen in a box

TROUSER GUARDS

Trouser guards, corrugated spring steel ⅜ inch wide, enameled. Weight per dozen pairs 4 pounds.

Corrugated Trouser Guards. Per dozen pairs.....**$0.90**

GILLETTE SAFETY RAZORS AND BLADES

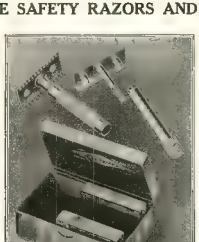
STANDARD RAZOR

Genuine leather case, purple lined

No. 460. Triple silver plated razor, leather case and blade boxes to match case .....each, **$5.00**

No. 460G. Same as above, with gold plated razor and gold plated blade boxes .....each, **$6.00**

Above sets contain 24 shaving edges; 12 double edged Gillette blades



STANDARD RAZOR

Metal case, purple lined

No. 460B. Triple silver plated razor, nickel plated case and blade boxes to match case.....each, **$5.50**

Above sets contain 24 shaving edges; 12 double edged Gillette blades; in metal box plated to match case.

COMBINATION SET

Metal case, purple lined

No. 461B. Triple silver plated razor, collapsible shaving brush and stick Gillette shaving soap in nickel plated holders, nickel plated blade box.....each, **$7.50**

Above sets contain 24 shaving edges; 12 double edged Gillette blades

BULLDOG

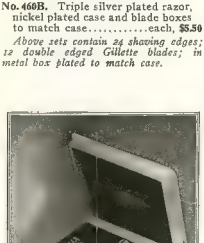
Genuine leather case, purple lined; heavy, stocky handle.

Preferred by many old and new Gillette users.

Triple silver plated razor and blade boxes to match case.....each, **$5.00**

Bulldog "G" gold plated razor and gold plated blade boxes..each, **$6.00**

Above sets contain 24 shaving edges; 12 double edged Gillette blades



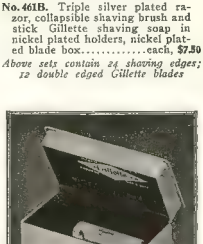
MILADY DéCOLLETé GILLETTE

Special set for ladies

To keep the underarm white and smooth.

14K. Gold plated razor and blade box, French ivory case, lined with old rose velvet and satin. each, **$6.00**

Above sets contain 24 shaving edges; 12 double edged Gillette blades



ARISTOCRAT

French ivory case, purple lined

Beautifully modeled on lines of refined simplicity. Especially desirable for gift purposes.

Triple silver plated razor and blade boxes to match case.....each, **$6.00**

Aristocrat "G" gold plated razor and gold plated blade boxes.....each, **$7.00**

Above sets contain 24 shaving edges; 12 double edged Gillette blades

Torrington,

THE TORRINGTON Electric Cleaner answers every demand—fulfills every requirement of a discriminating housewife. It does its work quickly and thoroughly. It is light and easy to operate, wonderfully economical in current consumption, and with its attachments, provides every facility for thorough home cleanliness.

The motor is used solely to produce powerful suction that reaches deep into the rug for imbedded dirt. The big brush operating naturally like a carpet sweeper, gets all the surface litter, lint, and ravelings.

And it does it without injury to the rug.

Made of highly polished nickeled steel. 25 feet of portable cord. Switch conveniently located in the handle. Endorsed by Good Housekeeping, Fire Underwriters, and every other appliance testing laboratory.

Torrington's unusually powerful suction renders these cleaning tools really efficient in 40 household uses:

1. Covered hose—8 ft. long for using attachments.
2. Extension handle—for reaching high places.
3. Brush for cleaning clothing, walls, etc.
4. Blower—for connecting hose to exhaust of cleaner.
5. Tool—for cleaning radiators, books, etc., and for blowing.
6. Nozzle—for cleaning draperies, upholstery, etc.
7. Nipple—for connecting hose and attachments.
12. Connector—for connecting hose with cleaner.

Each $55.00
Attachments, Per Set . . 9.75

"X" Radiator Liquid

Arrange a Display

in your window as shown in illustration—it will make sales for you. We supply attractive posters, folders, etc., free.

Display Stand Free

In each assortment there is included an attractive display stand shown here with poster and other advertising matter.

Contains no cement, powder, shellac, glue, meal, or other injurious material. Prevents rust and scale. Is only process known that permanently repairs cracked water jackets without welding. When poured into radiator it automatically repairs all leaks—tones up the entire cooling system of car—saves oil.

Special Assortment

A necessity to every motorist as a preventive as well as a cure. "X" has wonderful sales possibilities. Every wise motorist will carry a can of it.

Consists of nineteen cans of "X" Liquid—twelve 75c cans and six $1.50 cans. Also one $1.50 can—given free.

Regular size cans.....$1.50 | Ford size.....$0.75
Dealers' Special Assortment.....$18.00

Gasket Shellac Solution

A solution of pure orange shellac combined with finest far eastern gums cut in 188 proof alcohol. Always ready for use.

Cements and makes leak proof, metal, leather cork, paper, asbestos canvas, fibre, rubber and all varieties of gaskets used in auto, motorcycle, gasoline and oil engines.

2 oz. bottles, with swab	each,	$0.25
Half pint cans	each,	.75
Pint cans	each,	1.25
Quart cans	each,	2.25
Half gallon cans	each,	3.50
Gallon cans	each,	6.50

Se-Ment-Ol Liquid Radiator Cement

Permanently repairs leaks in 5 to 10 minutes. Simply pour liquid in the radiator, the circulating water in the cooling system carries the liquid to the leak and as it reaches the air it congeals instantly, forming an elastic repair, the heat from the motor hardens it, making repair permanent.

10 oz. can.....each, $0.75

Twelve in a Carton

Se-Ment-Ol Radiator Cement

A self-acting radiator cement. Works on this simple principle. Pour it into the hot water of the radiator, it dissolves and passes through the leak in solution, congealing as it strikes the air into a hard cement that permanently stops the leak. Sold in lithographed 7-oz. cans.

Per can.....$0.75

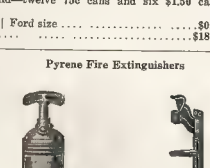
Twelve in a Carton

Eccolene

Saves gasoline, for all gasoline motors. Increases mileage from 25 to 50 per cent, reduces carbon and prevents its formation. The 1 qt. size can contains enough Eccolene for 160 gals. of gasoline with a 4-cylinder car.

In quart cans.....per can, $2.50

Pyrene Fire Extinguishers



The Pyrene Extinguisher is easily operated and may be refilled as readily as a kerosene lamp. It is handsomely finished and may be carried in our special holder on the dashboard or any convenient point of your car.

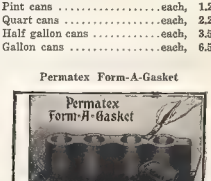
Brass, complete with black enamel bracket.....each, $10.00
Pyrene Liquid, quart cans...each, 1.50

Guardene Fire Extinguishers

The Guardene Fire Extinguisher is operated by simply turning upside down. This movement releases sulphuric acid into a solution of bicarbonate of soda which generates a gas pressure that will throw a stream 40 feet. The tank is of cold rolled copper, burnished outside and heavily tinned on inside to prevent corrosion from acid.

Each.....$20.00
Extra Recharges.....75

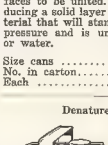
Permatex Form-A-Gasket



Permatex Form-A-Gasket is a gasket material in paste form that is used in place of gaskets. It is brushed on surfaces to be united. Dries quickly, producing a solid layer of heat resisting material that will stand exceptionally high pressure and is unaffected by gas, oil or water.

Size cans	¼ pt.	1 pt.
No. in carton	12	12
Each	$0.45	1.25

Denatured Alcohol



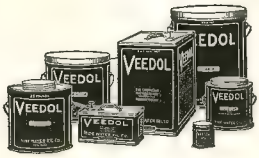
Denatured alcohol for radiator mixtures 188° proof.

1 gal. cans...$....
5 gal. cans.... ....
Barrels..... ....

Market price on application

VEEDOL

The Lubricant That Resists Heat



Oil

Veedol Medium possesses superior lubricating qualities when exposed to heat and flows readily in cold weather.

Veedol Heavy has superior heat-resisting qualities and is particularly suitable for use in water-cooled engines which operate at high temperatures.

Veedol Special Heavy has been developed for use in water-cooled engines which operate at high temperatures. Many Fordson and International Harvester tractor dealers recommend it. At the last National Tractor Demonstration, Wichita, Kansas, Veedol was used by 45 out of 67 tractors. Many other tractor manufacturers have found by exhaustive tests that Veedol Special Heavy holds up under the most severe conditions and prevents the excessive dilution of lubricating oil in the crankcase.

Special Lubricants

Veedol Trans-Gear is a semi-fluid oil for the lubrication of differential and transmission mechanisms where the housings are sufficiently tight to retain it. Also for use in worm drive rear axles of both commercial and pleasure vehicles.

Greases

Veedol Gear Compound retains practically the same consistency throughout the full range of operating temperatures and adheres to such a degree to rotating parts as to assure their efficient lubrication. The leakage of this lubricant, by way of joints in the mechanism, is less than that of any other.

Veedol Cup Grease is offered in three grades: Light, Medium and Heavy.

Veedol Graphite Grease may also be obtained in three grades: Light, Medium and Heavy, and is recommended for the lubrication of water pump shafts and spring suspension leaves.

Veedol Motor Oils

	Bbl	½ Bbl.	Medium Drum	½ Drum	¼ Drum	Case of 2-5 Gal.	Case of 1-5 Gal.	Case of 10-1 Gal.	Per Can Case of 20-½ Gal.
Per gallon	$1.31	1.37	1.31	1.37	1.47	1.47	1.47	1.50	1.06
			Heavy						
Per gallon	1.31	1.37	1.31	1.37	1.47	1.47	1.47	1.80	1.06
			Special Heavy						
Per gallon	1.48	1.54	1.48	1.54	1.64	1.64	1.64	1.97	1.15

Veedol Trans-Gear Oil

Per gallon	.95	1.01	.95	1.01	1.11	1.11	1.11	1.44	...

Average net contents: Barrels, 50 gallons; ½ barrels, 30 gallons. Steel drum, 55 gallons, ½ drum, 30 gallons. Packages not returnable.

Veedol Cup and Graphite Greases (Summer and Winter Grades)

	Bbl.	½ Bbl.	50 Lb. Can	Case of 12-5 Lb.
Per pound	$0.16¾	.17½	.19	.22

Veedol Gear Compound

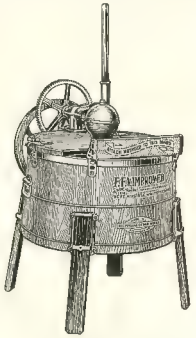
	Bbl	½ Bbl.	50 Lb. Can	Case of 12-5 Lb.
Per pound	$0.16¾	.17½	.19	.22

Average net contents: Barrels, 375 pounds; ½ barrels, 240 pounds. Packages not returnable.

WASHING MACHINES
IMPROVED ROYAL
Water Power

Operates on 18 pounds pressure, by connection to ordinary water hydrants. The tub is of southern Louisiana cypress, with heavily reinforced lid, large wringer box and legs strengthened by cypress cross supports and steel rods. Has non-tearing agitator and shaft. The agitator is held rigidly to end of shaft and sliding movement to allow agitator to rest on top of clothes, is within the shaft. The motor is made entirely of brass and has a single valve and simple double follower head with full ability to stand wear and tear of 175 pounds pressure. Stave legs are strongly reinforced. Sides and bottom of tub corrugated. Highest grade rubber intake and outlet hose with connections. Tub is equipped with steel hinges. Lid support, handles and bolt with thumb nut lock.

Improved Royal Water Motor Washer, Family Size.
Weight crated 75 pounds.....each, **$32.25**

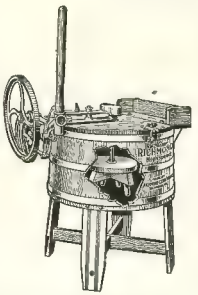


F. F. V. IMPROVED, HIGH SPEED

Virginia white cedar tub, corrugated inside, electric welded, galvanized steel wire hoops, sunk into grooves. Main frame is made of two solid halves, with self lubricating gear case. Gears are machine cut making them accurate, smooth running and noiseless. Fitted with fly wheel which runs on seven polished rollers. Lever handle is direct geared to mechanism and has forged steel pitman rod which drives machine with great power and speed. Tub equipped with substantial hinges, handles and cover fastener.

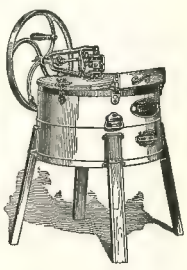
F. F. V. Improved, Family Size, Rotary Type. Weight crated 110 pounds.....each, **$22.50**

WASHING MACHINES
HIGH SPEED



Virginia cedar—clear white tub, with hardwood legs, well bolted to the machine and securely braced. Tubs are corrugated on the inside and have tight fitting lids. The gears are all cut and covered, there are ten roller bearings, the dolly is of the X style, there is no dead center in its operation. The High Speed is finished with a coat of mahogany stain and completed with a coat of high quality coach varnish.

High Speed, Family Size, Rotary Type. Weight crated, 115 pounds .....each, **$22.50**



MAJESTIC

Tub made of Virginia white cedar, with electric welded, galvanized steel wire hoops imbedded in grooves in staves. Corrugations on the inside of tub are smooth, the top fitting in tightly just above where corrugations end. Dolly is fitted with round, smooth pins. The mechanism consists of a large hub fitted with roller bearings, galvanized malleable dolly post, steel turned axle and large fly wheel which eliminates all lost motion. The legs set into substantial sockets. Wringer attachment securely fastened to tub. Tub equipped with substantial handles, hinges and cover fastener.

Majestic, Family Size, Rotary Type. Weight crated, 80 pounds .....each, **$17.25**

WASHING MACHINES

No. 100

ELECTRIC POWER

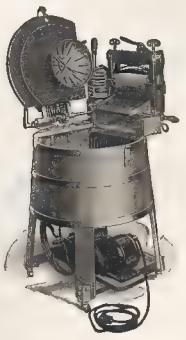
The Wayne washer is perfect in result, because correct in principle. The true rocking motion is obtained by means of curved steel rockers of which the cradle is an integral part and which is placed in the polished copper removable tub, which is devoid of pegs, slats, paddles, etc. The crank and connecting rod transmit the motive power, rocking the cradle, which agitates the clothes and water, forcing suds and water through the linen without possible injury to the finest fabrics. The tub is fitted with a short drain, water pours into pan and out through a spout in end of cabinet.

Two levers control entire mechanism, one conveniently placed at side of tub controls starting and stopping of washer; other lever controls the action, forward, reverse and stop, of wringer; has but seventeen working parts, all bearings oilless. The high grade swinging wringer swings into four different positions, top lever operating rolls either way, lower catch locks wringer safely into any of four positions automatically. The expanding clutch starts tub smoothly, which is operated by a long lever. All exposed mechanism is inclosed. The insulated motor is ¼ horsepower, easily running washer and wringer at the same time, is set on special base to keep belt taut. The endless belt is made of ten-ply fabric and red rubber, wide and flat.

Every joint and corner of the steel frame is welded, eliminating the use of bolts or rivets. Frame is fitted with casters and adjustable legs which adapt the washer to uneven floors, and are operated by foot lever. The cabinet is finished in baked on enamel, battle gray color. Regularly equipped with 110 volt, 60 cycle, single phase alternating current or 110 volt direct current motor, insulated cord and attachment plug.

Dimensions of frame, inches	36 x 18 x 25¾
Over all dimensions, inches	38½ x 24½ x 56
Floor to top of frame, inches	30
Floor to bottom of frame, inches	4¼
Floor to top of tub, inches	36
Tub, inches	25 x 14½ x 14½
Opening in tub, inches	17 x 11¾
Wringer rolls, inches	11 x 1¾
Weight, pounds	240
No. 100. Each	**$186.75**

WASHING MACHINES



No. 51M

ELECTRIC POWER

This machine has the vacuum system of washing clothes. The vacuum hood is made of one piece heavy corrugated galvanized iron, hot galvanized after it is stamped. Top castings are riveted to hood with copper rivets. The dasher post is made of round cold rolled steel and attached to hood casting. All outside gears are inclosed in a cylindrical guard, protecting operator from injury.

Machine is equipped with a swinging wringer with hardwood frame, instant wringer release and 1¾ x 10 inch white rubber rolls; wringer operates in either direction, a reverse feature in case clothes get knotted to be removed; clothes can be removed from rolls without danger.

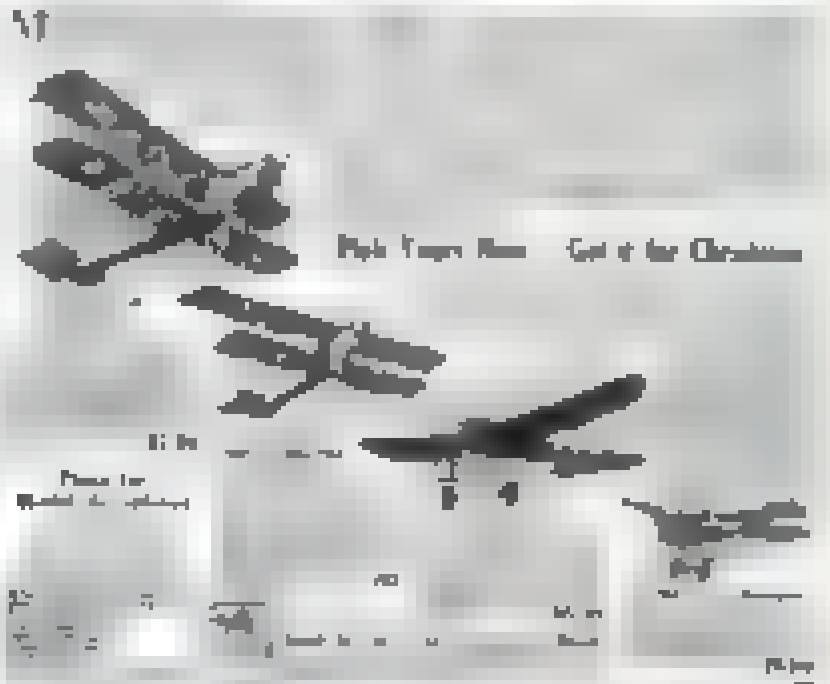
Tub is of Louisiana cypress, with legs thoroughly braced and fitted with casters. All gearing is machine cut and of cast malleable iron and steel. Tub has three heavy, flat steel hoops. Dimensions of tub, height 12½ inches, bottom 23¾ inches diameter, top 20¾ inches diameter; finished in natural wood and varnished; all exposed iron parts are finished pearl gray. Equipped with high grade motor, cord and attachment plug. Regularly equipped with 110 volt, 60 cycle, single phase alternating current motor, or 110 volt direct current motor

No. 51M. Electric vacuum washing machine. Weight 275 pounds ..... each, **$124.00**

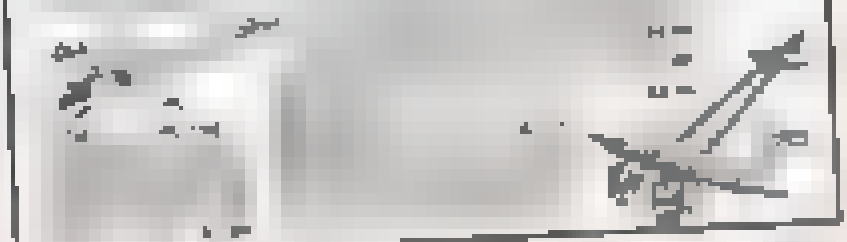
How to Make Money

Build and Fly Your Own 3 ft

Ideal Model Aeroplane



These Racing Aeroplanes Fly Fast, Far and High Get One for Christmas



ADLER-ROCHESTER

Clothes for Men

Send for the ALADDIN Catalog Today

Prices of above include all materials for completing both buildings—one hundred other California Bungalows, Colonial Bungalows, Cottages, two story homes and latest information on building conditions.

ALADDIN SYSTEM

SAVES LABOR. All the materials are cut to fit in the Aladdin Mills ready to be nailed in place on the job. This saves about 1-3 of the carpenter's wages.

SAVES LUMBER. The Aladdin system of standardized cutting to fit of materials saves 18% waste of lumber. This means 18% SAVING ON THE COST OF THE LUMBER.

Saves Time. You purchase all the materials from one source and they are all on the job ready for you when you want them. Your home is not delayed for weeks and months before completion.

You are sure to find an Aladdin home to suit your tastes and pocketbook, for the variety ranges from a few hundred dollars to homes costing fifteen thousand dollars completed. They are built of the very highest quality lumber to be had and designed and constructed according to the very highest architectural standards. They are not "portable," "sectional" nor "fabricated." They are real homes constructed exactly as any well-built home in your neighborhood. The Aladdin catalog gives all these details.

Greatest Distributing System of Lumber in the World

Aladdin Homes are manufactured and shipped direct from the Aladdin Company's own mills in Michigan, Mississippi, North Carolina and Oregon. Wherever you live, Aladdin Homes come to you in an absolutely direct line from the nearest timber region at a great saving in freight.

Present Aladdin prices are based on the below-cost figures Rather than lose more money, the great timber and lumber producers have already CLOSED DOWN. Common sense points to immediate action for the prospective home builder. Aladdin cannot continue very long to accept orders at present prices.

IT'S YOUR OPPORTUNITY

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Send for Catalog 100 Attractive Home Plans

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The Aladdin Company

Enclosed find stamps for the book "ALADDIN HOMES," No. 498.

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Please Mention Popular Mechanics

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New York's newest hotel, Park Avenue, Fifty-first and Fifty-second Streets, will appeal to a discriminating clientele who appreciate its unusual qualities—its splendor, its cuisine and its atmosphere of refinement. Every room has outside exposure. Spacious dining rooms, fountain garden, grill and ball room for special social functions. Although away from the maelstrom of commercial activity, The Ambassador is but a few minutes walk from the Fifth Avenue shopping district and the theatres. And this Ambassador is only one of the world-famed hotels belonging to

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The AMBASSADOR, *Los Angeles*
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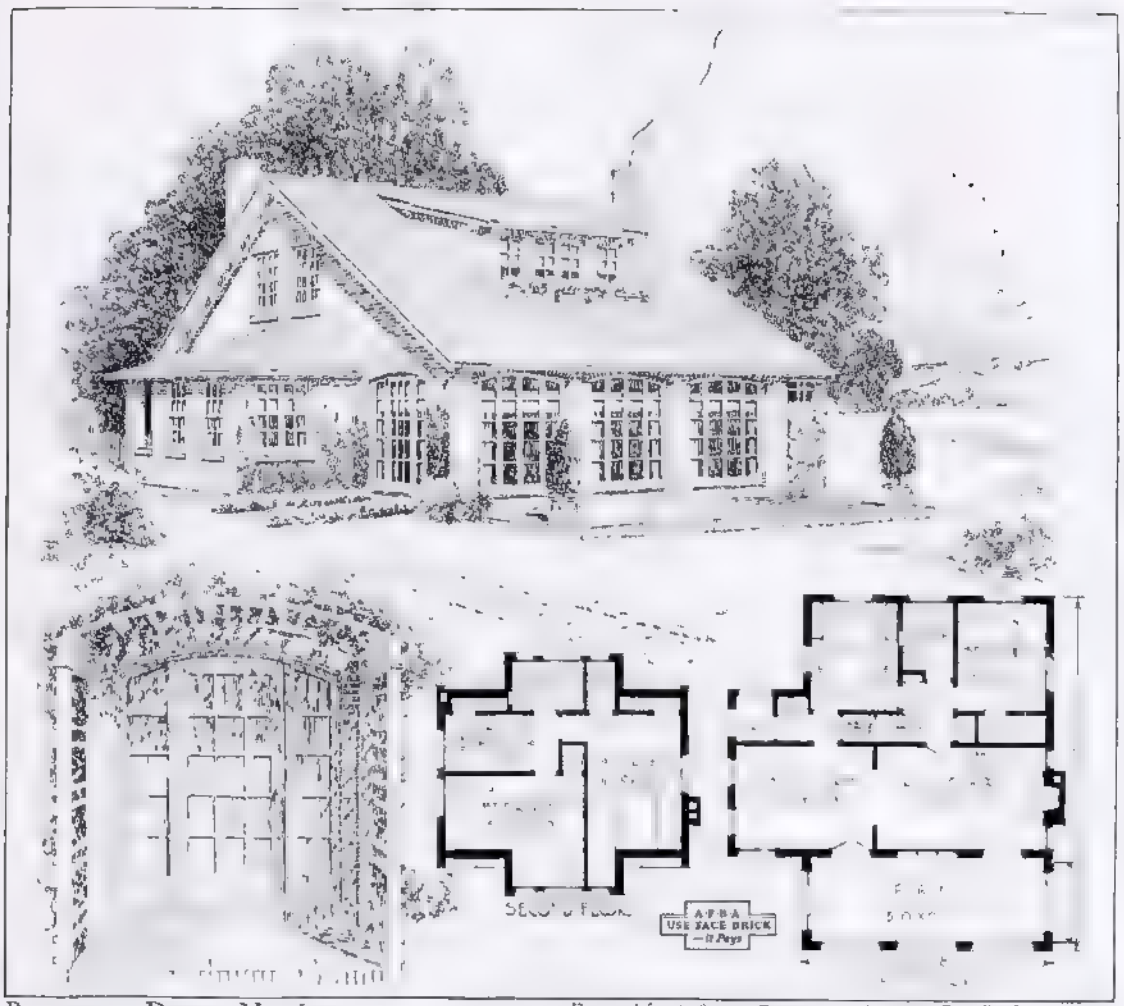
The AMBASSADOR, *New York*



BUNGALOW DESIGN NO. 621 *Designed for the Service Department, American Face Brick Association*

This airy, sunny cottage is one of the designs in our "Face Brick Bungalow and Small House Plans." The large porch, ample living and sleeping quarters, and the generous windows, assuring plenty of light and ventilation, combine to make this an exceptionally livable house.

Beautiful, Economical Face Brick Homes

THE joy and satisfaction of your new Face Brick house is only enhanced by the years. Time mellows its beauty, weather cannot mar it, and age does not undermine its strength. It will serve you a lifetime and be a heritage to your children.

Costing but a little more than less beautiful and less enduring materials, it becomes in a few years the most economical house you can build; for the Face Brick house depreciates almost imperceptibly, requires no repairs and little painting around doors and windows, and saves money in fuel costs and insurance rates.

"The Story of Brick," an artistic booklet with numerous illustrations, discusses these matters in detail. It has much helpful information for all who intend to build. Sent free.

"Face Brick Bungalow and Small House Plans" are issued in four booklets, showing 3 to 4-room houses, 5 room houses, 6-room houses, and 7 to 8-room houses, in all sixty-four, each reversible with a different exterior design. These designs are unusual and distinctive, combined with convenient interiors and economical construction. The entire set for one dollar. Any one of the booklets, 25 cents, preferably in stamps.

We have the complete working drawings, specifications and masonry quantity estimates at nominal prices. Select from the booklets the designs you like best and order the plans, even if you are not going to build now, for their study will be not only interesting and instructive, but helpful in formulating your future plans for a home.

You may want "The Home of Beauty," fifty designs, mostly two stories, representing a wide variety of architectural styles and floor plans. Sent for 50 cents in stamps. We also distribute complete working drawings, specifications and quantity estimates for these houses at nominal prices.

Address American Face Brick Association, 1137 Westminster Building, Chicago, Illinois.

Winning the Battles of Peace

France has almost won her great fight against war's destruction. Eighty per cent of her wrecked and crippled factories again hum with activity. All of the 4,006 villages and towns in the devastated regions have again resumed municipal life; and of the 6,445 schools in this vast area, 5,345 have been rebuilt and opened. Farms, factories and homes again cover most of the scarred land.

In her reconstruction, France has shown the same unconquerable spirit that stopped her invaders at the Marne.

And here, at home, another great peaceful victory is being won against the greatest odds. This has been the fight of the Bell telephone employees to rebuild a national service.

Despite all of the difficulties of the post-war period, the organized forces of the Bell system have established new records in maintenance and construction.

Facing, after the armistice, a public demand such as was never before known; they have yet responded to the nation's needs with hundreds of new buildings, thousands of miles of new wires and cables, and with the installation in the last year, alone, of over half a million new telephones.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY

AND ASSOCIATED COMPANIES

One Policy *One System* *Universal Service*

And all directed toward Better Service

Vigilance

THE VALUE TO THE PUBLIC of the Bell System service is based on the reliability, promptness and accuracy of that service.

As quality of service depends upon the economic operation of all telephone activities, vigilance begins where work begins. Science and engineering skill enter into the selection of all raw materials; and into the adapting and combining of these materials to the end that the finished product may be most efficient in operation and endurance, and produced at the least cost.

A series of progressive tests are made at every step during the transformation of these materials into telephone plant and equipment. And when all these complicated devices, with their tens of thousands of delicately constructed parts, are set in operation they are still subjected to continuous, exhaustive tests.

As the best of materials and the most complete machinery is of little value without correct operation, the same ceaseless vigilance is given to the character of service rendered in providing telephone communication for the public.

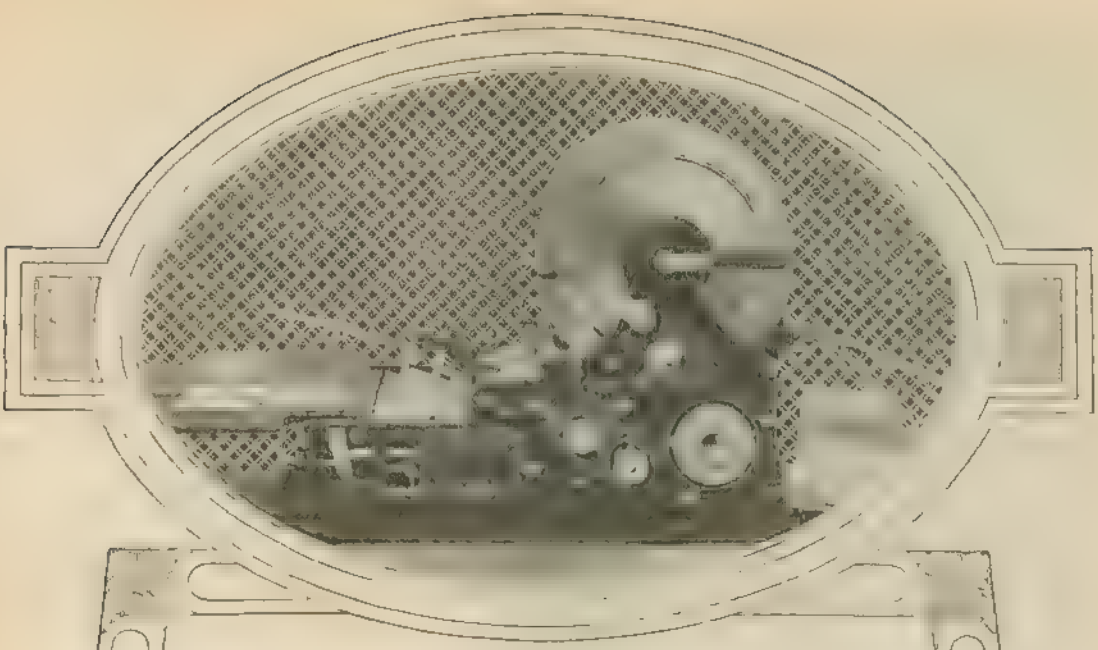
Such constant vigilance in regard to every detail of telephone activity was instrumental in upholding standards during the trials of reconstruction. And this same vigilance has had much to do with returning the telephone to the high standard of service it is now offering the public.

"BELL SYSTEM"

AMERICAN TELEPHONE AND TELEGRAPH COMPANY

AND ASSOCIATED COMPANIES

One Policy, One System, Universal Service, and all directed toward Better Service



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THE Repair Manager is the man who gets the big money in the auto repair business nowadays. Any good machinist can make the repair when he knows what is wrong, and what to do—but the man who *finds* the car's trouble, and *prescribes* the remedy, is the one who draws the large salary. You can now qualify rapidly and easily for this new profession—through my complete 23 lesson course of instructions, "boiled down" from my 18 years' experience as practical auto machinist and nationally-known instructor in Automobile Mechanics.

Your Big Future in Auto Repairing

The demand for expert "Repair Managers" is away beyond the supply and is growing rapidly. The tremendous growth in popularity of the automobile and the nation-wide improvement of roads are multiplying the big garages. In 1914 there were 1,711,339 motor vehicles in the United States; in 1918 there were 6,146,617; and in 1919 and 1920 the enormous increase went on unabated. Is it any wonder that the supply of *trained* Repair Managers is inadequate? On every road there is plenty of business for every good-sized garage established, and a well-paid position in each for a *trained* Repair Manager.

I use new and original methods to fit you for one of these big-money jobs, and everything is made so clear and plain that if you read the course according to my simple directions, you will find it amazingly easy to obtain a comprehensive knowledge of every automobile made, down to the smallest bolt and the tiniest screw!

Auto Repairing Simplified

By M. E. SMOYER

397 Pages **400 Clear Pictures**

It is the ability to "diagnose" the difficulty in a car quickly, and prescribe for it, that will put you into a big-money position *directing* the efforts of repairmen—and it is this ability my course, *Auto Repairing Simplified*, gives you in 23 rapidly learned, easy lessons—obtainable from no one else.

Here are just a few of the hundreds and hundreds of questions I will answer for you.

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Name in the order in which they are most likely to occur, 18 sparking troubles that might prevent a No. 1 spark. What are the seven troubles to which an internal combustion engine is subject. What are the thirty causes of carburetion trouble? What are the four principal ailing motors? What are the nineteen causes for these four ailing troubles? etc., etc., etc.

When you realize that my course was written by a practical expert to help you—without the use of technical or engineering terms—you will see that my course is exactly what you have been waiting for. One of the most convenient features about the lessons is that the pictures and diagrams are either on the same page with the text describing them or directly opposite it.

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Your opportunity as an expert "Automobile Doctor" is measured only by your knowledge and ambition. I am ready to furnish you the *knowledge and training*—through the same thorough course I taught personally to thousands of students in the Ruhe Auto and Tractor School in Kansas City, and later in charge of the *Educational Work of the Training Department of the U. S. Army.*

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WHAT SMOYER STUDENTS SAY

JAMES WONIC, Morse, Iowa, says: "Your course on automobile is great. It ought to sell for [illegible] fifty dollars. Believe me, Smoyer, I am today where I can handle the motors and ignition, lighting and starting with any of them and I CERTAINLY LAY IT TO YOUR BOOK."

GEORGE W. JOHNSTON, Kansas City, Kansas, says: "One line in your motor trouble chart saved me from being stalled nine miles from town on a rainy night."

SAVES MONEY FOR OWNERS TOO

The owner who *knows* how to properly care for his car is the exception, rather than the rule. Seventy-five per cent of the repair jobs that come to an automobile repair shop are avoidable, and could be prevented by the car owner, if he possessed a better knowledge of his car, which [illegible] merely by avoiding the cause. The simple, concise information in "Auto Repairing Simplified" will enable you to prevent your automobile from depreciating in value, and will save 75 per cent on your up-keep cost.

CONSULT ME FREE

"Auto Repairing Simplified" answers almost every conceivable question that can come up, but every owner of my course is entitled to write and ask me any question pertaining to automobiles or gas engines at any time. This consultation privilege is extended without charge to my students.

M. E. SMOYER.

INDEPENDENT CORPORATION
Dept. A-454 **319 Sixth Avenue** **New York City**

You may send me the Course or Courses checked below. Within five days after receipt of [illegible] I will send you the price indicated after each in full payment.

- ☐ Auto Repairing Simplified ($5) By M. E. Smoyer.
- ☐ Roth Memory Course ($5). By David M. Roth.
- ☐ Reading Character at Sight ($5). By Dr. K. M. H. Blackford
- ☐ Mastery of Speech ($5) By Frederick Houk Law
- ☐ Super-Salesmanship ($5) By Arthur Newton
- ☐ How to Write Stories ($5) By Prof. W. B. Pitkin.

Name .....

Address ..... Pop. Mech. 4-21

CALIFORNIA REDWOOD

CALIFORNIA REDWOOD ASSOCIATION

Redwood for pipe *[illegible]*

Nowhere have Redwood's unique qualities been more completely demonstrated than in its use for piping. The Government used Redwood pipe almost entirely for its camps, hospitals and debarkation stations during the war. It is in no way affected by soils which usually destroy all other pipe. It costs less than any other pipe of equal efficiency. Because of Redwood's unequalled resistance to decay, many architects, building contractors and engineers give it preference for the exterior siding, mud-sills, and exterior finish of homes, for tanks and silos, for mine timbers, and for a multitude of industrial uses involving exposure to acids or to moist earth.

In addition, its natural beauty of grain and tone, and its easy workability have given it a steadily increasing vogue for interior finish, panelling, etc.

For detailed facts and figures about this most interesting of woods, go to your architect, building contractor or lumber dealer and ask *"What about Redwood?"*

Redwood is unequalled for the special uses to which it is best adapted, and for these uses the available supply is adequate for generations. Meanwhile, according to U.S. Forest Service Bulletin 38, merchantable second-growth Redwood is produced in less than sixty years by natural growth from the stump.

8 ft. inside diameter continuous redwood stave pipe built for the United States Reclamation Service, Sun River Project, near Gilman, Montana

I practice the art of good cooking,
I'm known all over the land;
And if for good soup you are looking,
Why, here's the world's best at my hand.

Talk about soup!

That piping hot plate of delicious soup you enjoy so much—do you realize how big a part it plays in keeping you physically fit?

Good soup supplies vital food elements, stimulates appetite, promotes digestion—performs a work that no other one food can do.

The tremendous sale of Campbell's Soups today proves how well the American housewife appreciates these facts.

Formerly soup was only an occasional dish or enjoyed by the few. Now serving Campbell's Soup regularly every day is almost a universal custom.

Campbell's Soups are so tempting in quality, so convenient (already cooked), so economical, that people no longer bother to make a soup at home.

Have a Campbell's Soup every day. Begin today with the delightful, invigorating Tomato Soup.

21 kinds **12c a can**

Campbells' Soups

LOOK FOR THE RED AND WHITE LABEL

Huck Finn had nothing on me
This beauty I'd like him to see.
First I will eat it—
Then home I will beat it,
Where Campbell's is waiting for me!

The flavor you never forget

And never need to—thanks to Campbell's Tomato Soup! Every delicious Campbell's spoonful has the same spice and glow and refreshing tang you used to relish when you stole down to the old tomato patch and ate your fill. The big red juicy fellows are just the ones that make

Campbell's Tomato Soup

The pure tomato flavor is there in all its freshness. Rich creamery butter, granulated sugar, herbs and spices are blended with the tonic tomato juices to yield one of the real delights of the dining table.

21 kinds **12c a can**

Campbells' Soups

LOOK FOR THE RED AND WHITE LABEL

"Happy New Year—how I'll greet it.
Here is my pledge. Can you beat it?
Such resoluting
Is easy as shooting
Campbell's—You betcha I'll eat it!"

A happy resolve

The trouble with most New Year resolutions is they're too negative, too much "I will not" about them. You give up something you like. There's no joy in it. But here's a resolution that says "I will!" And you can be happy over it.

"I will eat good soup at least once every day!"

Not a very big sounding resolution but it is big in results if you keep it. For good soup eaten daily supplies a distinct need of the human digestive system in a way that no other food can exactly duplicate.

Make this resolution today. Stick to it through the year. It means better digestion, sounder health, more of the real joy of living.

21 kinds **15c a can**

Campbells' Soups

LOOK FOR THE RED AND WHITE LABEL

This quickness at home is just great,
You don't catch me getting in late,
For this is my inning, and Campbell's is winning—
You'll never beat me to the plate.

Right for the home plate

It's good to get home when you know that right there waiting for you is a plate of delicious hot soup, to take the tiredness out of your hunger and start you naturally on the quiet enjoyment of your meal.

Campbell's Tomato Soup

Gets its wonderful flavor and tonic properties from vine-ripened tomatoes of a selected variety, and from the way they are blended with creamery butter, pure granulated sugar and other appetizing ingredients. Serve it regularly and often. Keep a supply always on hand.

Price reduced to 12c a can

Campbells' Soups

LOOK FOR THE RED AND WHITE LABEL

Healthy, happy boys and girls,
Sparkling eyes and flying curls,
Showing by their dashing play
They eat Campbell's every day!

Bounding health

How much it depends on the food we eat! One simple rule will add as much downright pleasure to your eating as it will bring unfailing benefit. Eat good soup every day! Do it yourself and insist that your children gain the strength and vigor that soup gives.

Campbell's Tomato Soup

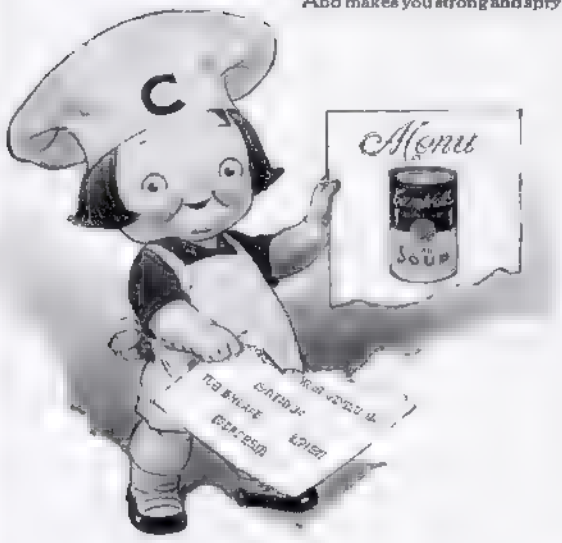
is a shining example of how good soup stimulates appetite, energizes digestion, nourishes and constructs the body tissues. Pure tomato juices, creamery butter and granulated sugar are skillfully spiced and blended with the other ingredients to produce this tonic, healthful, delightful dish. You never tire of it.

21 kinds **12c a can**

Campbells' Soups

LOOK FOR THE RED AND WHITE LABEL

"Here's what beats the heavy meals
The sugary cake and pie
It gives a zest to all the rest
And makes you strong and spry,"



"The biggest half"

What's the good of the best dinner without a good appetite to enjoy it?

Isn't a tempting delicious appetizer which makes the whole meal taste better and relish better really the "biggest" half of the menu any time?

Campbell's Tomato Soup with its captivating quality and flavor is not only a treat in itself but it makes all that goes with it doubly enjoyable and satisfying.

Made from the pure juice of solid, red, vine-ripened tomatoes blended with fine butter, granulated sugar and other choice ingredients, you never tasted anything more delicious. Have it for dinner or luncheon today.

21 kinds 15c a can

Campbells' Soups

LOOK FOR THE RED AND WHITE LABEL

My little belle, you rightly spell
The happiness you wish us—
The truest word we've ever heard
For soup that's just delicious!

A masterpiece!

That is what you will pronounce Campbell's Vegetable Soup at the first delicious spoonful. The Campbell's zeal for Quality, the Campbell's nicety in preparation and blending, through more than half a century, tell in the delightful savor and invigorating richness of this famous soup.

Campbell's Vegetable Soup

offers all the varied flavors and well-balanced food values of luscious red-ripe tomatoes, succulent Dutch cabbage, Chantenay carrots, choicest white and sweet potatoes, golden turnips, Country Gentleman corn, baby limas and dainty peas. Selected cereals, rich beef stock, herbs and spices —thirty-two distinct ingredients—complete this tempting soup.

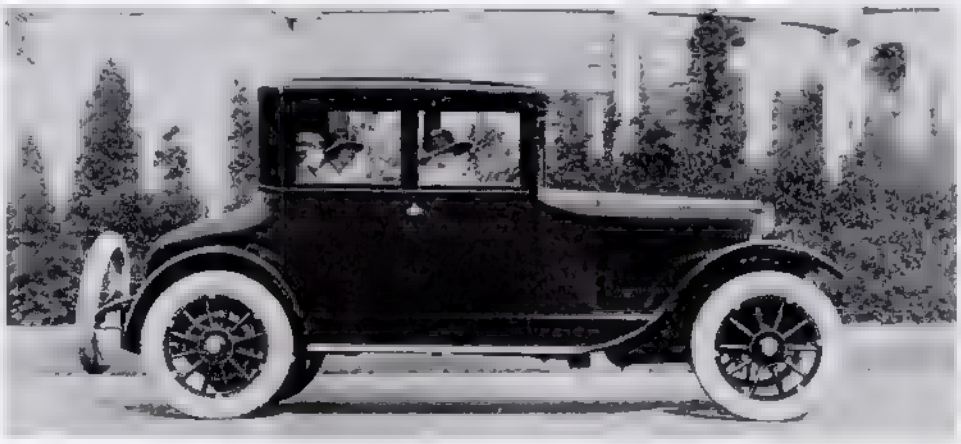
21 kinds **12c a can**

Campbell's Soups

LOOK FOR THE RED AND WHITE LABEL

CHANDLER SIX

Famous For Its Marvelous Motor



Luxurious Comfort With Assured Mechanical Excellence

FOR the beauty and dignity of its lines, the richness of its upholstery, and the careful attention given the details of its interior appointments, the Chandler coupe has proven most popular where these qualities rank second in importance only to the unfailing dependability of Chandler performance.

The flexibility of its chassis smooths rough roadways. In congested traffic it is handled with utmost ease.

The restfulness and comfort of the Chandler coupe meets the most exacting of business or social requirements. You relax into the deep, soft-cushioned seats in a luxurious comfort and enjoyment heretofore associated only with the most costly cars.

SEVEN SPLENDID BODY TYPES

Seven-Passenger Touring Car, $1895 *Four-Passenger Dispatch Car, $1975*
Four-Passenger Roadster, $1895 *Two-Passenger Roadster, $1895*
Seven-Passenger Sedan, $2995 *Four-Passenger Coupe, $2895* *Limousine, $3495*

(All prices f. o. b. Cleveland)

We shall be pleased to mail you complete catalogue

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Meals & Berth Included

Chicago to Buffalo
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Cruise

via Mackinac Island, Detroit, Cleveland, Georgian Bay 30,000 Islands and Return.

Chicago to Duluth
Cruise

via Mackinac Island, The "Soo," St. Mary's River, Lake Superior, Georgian Bay (30,000 Islands) and Return.

Delightful Vacation Trips of Over 2,000 Miles of Beautiful Scenery, Shore Line, Islands, Rivers, and Bays on the Big, New Cruising Ships

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Call or Write for Pamphlet and Full Information About the Lake Trips That Have No Equal

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TRADE MARK REG. U. S. PATENT OFFICE

Cleans Closet Bowls Without Scouring

Sani-Flush was made for just one thing—to clean the closet bowl—to clean it better than any other means and to clean it with less labor. Sprinkle a little *Sani-Flush* into the bowl, according to the directions on the can. Flush. Stains, rust marks and incrustations will disappear like magic leaving the bowl and hidden trap spotlessly white and absolutely sanitary.

You do not have to use disinfectants because *Sani-Flush* cleans *thoroughly*.

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Canton, O.

Canadian Agents:
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Toronto

Sani-Flush is sold at grocery, drug, hardware, plumbing, and house-furnishing stores. If you cannot buy it locally at once, send 25c in coin or stamps for a full sized can postpaid. (Canadian price, 35c; foreign price, 50c.)

Kills!

No Muss—No Mixing—No Spreading

Just a few nibbles at Rat Bis-Kit and then—rats and mice good-by! No trouble. Just crumble up. There's a different bait in each Bis-Kit. The pests die outdoors. Remember the name—Rat Bis-Kit. 25c and 35c at all drug and general stores

The Rat Biscuit Co., Springfield, Ohio

Rat Bis-Kit

For Mice Too

To the
MEDITERRANEAN

Under Our Exclusive Management
the S. S. "Caronia" of the Cunard Line will sail from New York on

JANUARY 28th NEXT
RETURNING MARCH 30th

The exceptional itinerary of sixty-one days of luxurious travel, prodigious yet leisurely sightseeing and perfect recreation includes visits to MADEIRA, SPAIN (Cadiz-Seville—Granada), GIBRALTAR (Tangiers), ALGIERS, MONACO (Nice and Monte Carlo), NAPLES (and environs), ALEXANDRIA (Cairo and Nile), PALESTINE (Jerusalem, Bethlehem, etc.), CONSTANTINOPLE, ATHENS, ITALY (Naples and Rome). Stop-over privileges in Europe—with return passage by Aquitania, Mauretania, Berengaria or other Cunarders.

THE CRUISE IS STRICTLY LIMITED TO 350 GUESTS

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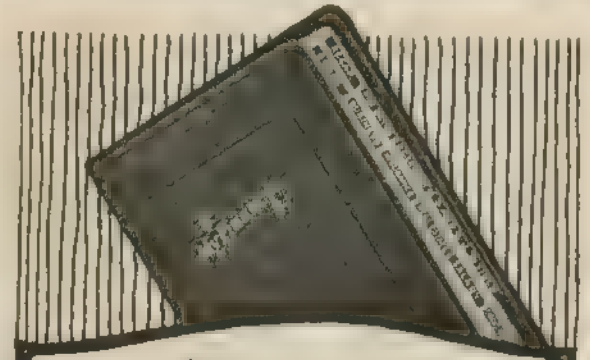
S.S. Vauban
November 17

S.S. Vestris
December 8

For full particulars, sailing dates, ports of call, rates of passage, etc., apply Company's office, 42 Broadway, New York City, or any local steamship agent

LAMPORT & HOLT LINE



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INCOME taxes prove how hard that question is to answer—from memory. With $My Finances$ you can answer it instantly because you have a complete and perpetual record of your personal income. "Keeping track of your income with $My Finances$ is a pleasure, not a drudgery." Handy, loose-leaf, all leather. See your stationer or mail the coupon today.

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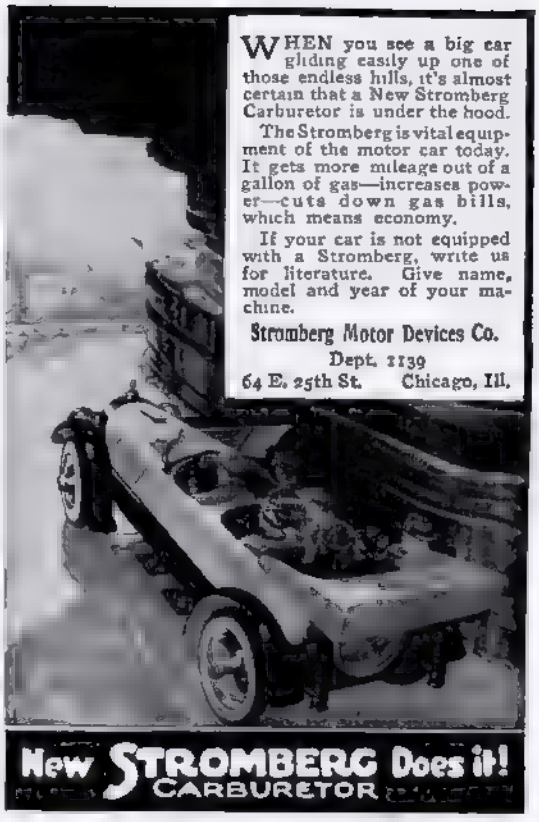
COOK'S CRUISE DE LUXE



WHEN you see a big car gliding easily up one of those endless hills, it's almost certain that a New Stromberg Carburetor is under the hood.

The Stromberg is vital equipment of the motor car today. It gets more mileage out of a gallon of gas—increases power—cuts down gas bills, which means economy.

If your car is not equipped with a Stromberg, write us for literature. Give name, model and year of your machine.

Stromberg Motor Devices Co.
Dept. 1139
64 E. 25th St. Chicago, Ill.

New STROMBERG Does it!
CARBURETOR

Salt Mackerel

CODFISH, FRESH LOBSTER

FOR THE CONSUMER NOT THE DEALER

FOR YOUR OWN TABLE

FAMILIES who are fond of **FISH** ought to get them **DIRECT** from **GLOUCESTER**, as no inland dealer anywhere else can possibly be in a position to offer you goods as perfect and wholesome as we can.

We sell **ONLY** to the **CONSUMER DIRECT**, not through grocers or markets. We want to supply **YOU**, no matter how small your requirements.

We have done a mail-order fish business for thirty years, serving the goods **RIGHT TO OUR CUSTOMERS' HOMES, EXPRESS PREPAID EAST OF KANSAS**, and guaranteeing complete satisfaction or money refunded.

If you are interested in good fish, won't you drop us a postal that we may send you further information?

Our **SALT MACKEREL** are tender, meaty fellows; broiled for breakfast they are delicious. **SALT CODFISH** selected and prepared by our method is unexcelled.

Much of the fresh fish you buy in the market is at least several days old. **OUR CANNED FISH**, being **STEAM STERILIZED**, is **ABSOLUTELY FRESH**.

Our **FRESH LOBSTERS**, in parchment-lined cans, go through no process except boiling the preparation of any kind being used. Opened and packed soon as in whole pieces as soon as taken from the water they retain their crispness and natural flavor. **CRABMEAT, SHRIMP** and **CLAMS** have likewise a perfectly natural appearance and taste.

Our **SALMON, TUNNY** and **IMPORTED FISH DELICACIES** are always the best procured.

A selection of our **FISH PRODUCTS** should always be in your **STORE-ROOM** for daily use as for the preparation at a moment's notice of dozens of dainty or substantial dishes.

Send for Descriptive Price List

Frank E. Davis Co., 65 Central Wf., Gloucester, Mass.

Over
600,000
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DODGE BROTHERS
MOTOR CARS

"Mention The Geographic—It identifies you"

DODGE BROTHERS
4 DOOR SEDAN

When comfort is complete and cost of operation at the minimum there is little more to be desired in a closed car

The Sedan adds to those qualities real beauty of design and excellent good taste

The gasoline consumption is unusually low.
The tire mileage is unusually high.

DODGE BROTHERS, DETROIT

DODGE BROTHERS
4 DOOR SEDAN

In point of faithful service, free from any annoyance, and rendered at a trifling cost, any owner will tell you that the Sedan is a really wonderful car

Its performance is so consistently good throughout the year that the thought of trouble rarely enters the mind of the owner

The gasoline consumption is unusually low
The tire mileage is unusually high

DODGE BROTHERS, DETROIT

DODGE BROTHERS
BUSINESS CAR

The sale of this car is more or less automatic

Business men use it and recommend it to others, and these in turn use and recommend it, with the result that the process is never-ending and the demand extends over the length and breadth of the land

The haulage cost is unusually low

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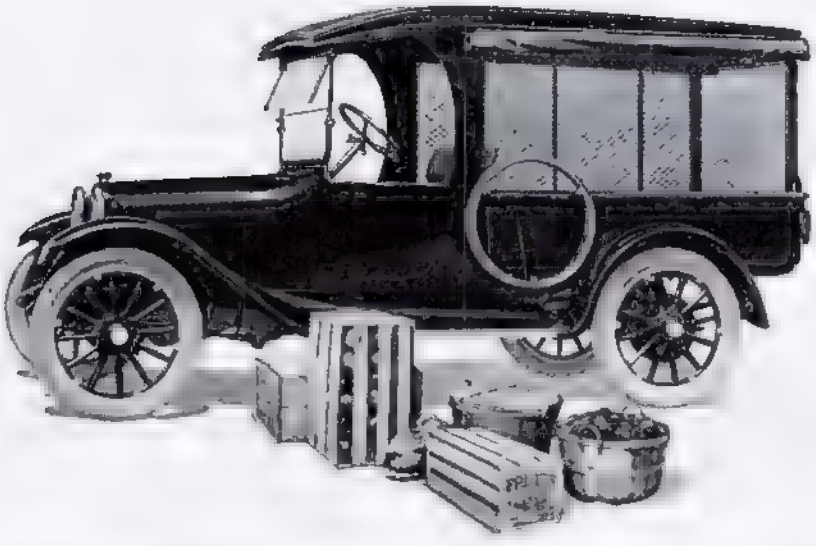
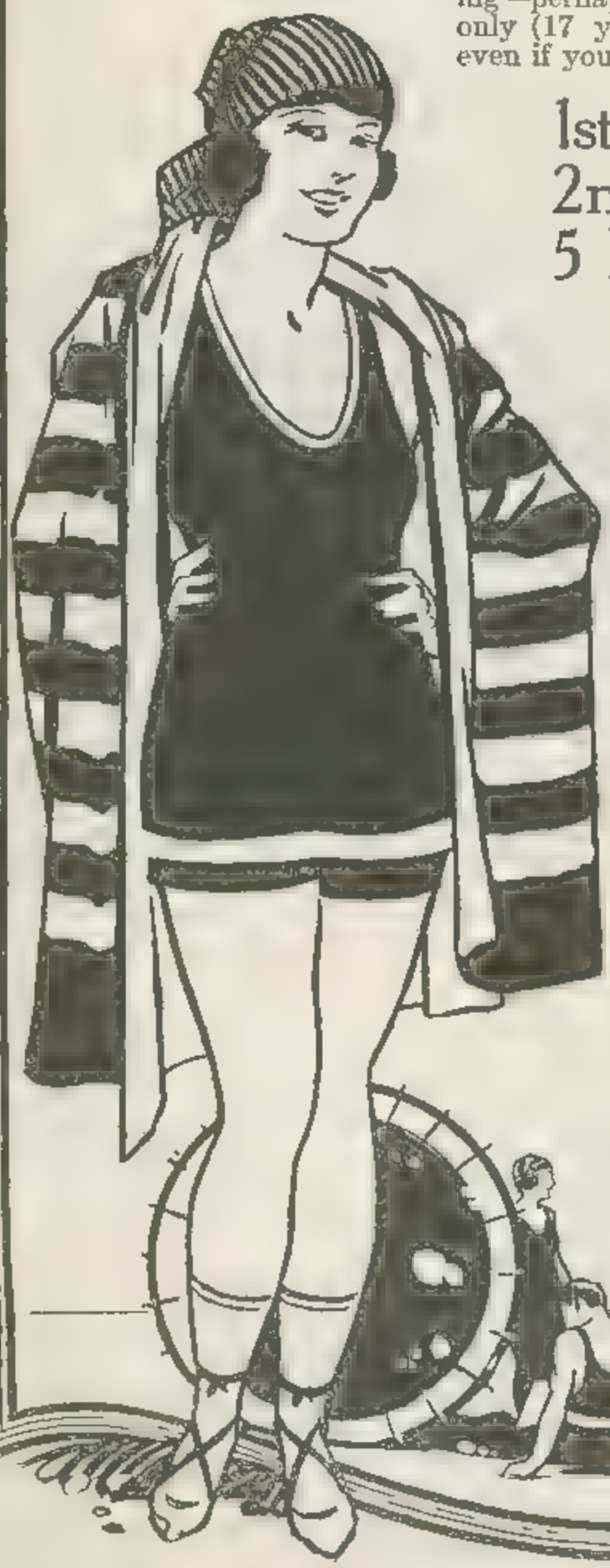


DRAW ME AND WIN A PRIZE



Do You Like To Draw?

Copy this bathing girl, and send us your drawing—perhaps you'll win first prize. This contest is for amateurs only (17 years of age or more), so do not hesitate to enter, even if you haven't had much practice.

1st Prize - -	$50.00
2nd Prize - - -	25.00
5 Prizes, each -	5.00

Every one entering a drawing in this contest will receive a beautiful monotone reproduction, suitable for framing, of the work of a nationally known American illustrator.

If the thing you most long for is to be a real commercial artist, listen! Capable artists readily earn $50, $75, $100, $150 a week and upwards. Hundreds of ambitious young men and women have found their true work in life—often have quickly doubled and trebled their incomes—through the Federal Home-Study Course, recognized by authorities as America's Foremost Course in Commercial Designing. With proper training of your ability, you, too, should succeed. By all means enter this contest—see what you can do.

Rules for Contestants:

This contest open only to amateurs, *17 years old or more.* Professional commercial artists are not eligible

Note these rules carefully. 1. Make your drawing of girl 5 inches high, on paper 3 1-2 inches wide by 7 inches high 2. Use only pencil or pen. 3. No drawings will be returned 4 Write your name, address, age, and occupation on the back of your drawing. 5. All drawings must be received in Minneapolis by April 20th, 1921.

Drawings will be judged and prizes awarded by Faculty members of the Federal Schools, Inc. All contestants will be notified of the prize winners. Cut this ad out of the magazine now, and send your drawing to

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663 Federal Schools Building,
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EGYPTIAN

DEITIES

"The Utmost in Cigarettes"

People of culture and refinement invariably PREFER Deities to any other cigarette.....

No better cigarette can be made.....

Plain End or Cork Tip

Anargyros INC.

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¶ Perhaps the most important factor in the half century of Krakauer success is that the founders and present directors of the House of Krakauer are musicians by heredity and choice. The Krakauer is a musician's piano built by men who know music.

¶ Write for De Luxe Catalog of uprights, grands, players and reproducing pianos.

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A Half Century of Quality Production

Matchless for the Complexion

Since 1789

STILL THE FAVORITE
ON SALE EVERYWHERE

The FIXSTIC FAIRIES

The wee fairy whispers 'Do not put off till tomorrow the mending you can do today—and you'll be surprised at the money LePage's will save you.'

LEPAGE'S GLUE

SIGNET INK

LIQUID GLUE

LEPAGE'S

Sentinels of Protection

CAR owners who equip with Firestone Cord Tires expect freedom from tire troubles, an effective, scientifically constructed non-skid tread, and mileage far beyond the average.

Faith in Firestone Cord performance impelled forty-seven high-grade car manufacturers to adopt Firestone Cords this year.

The record of Firestone quality goes back twenty years to the original determination of the maker — whose name is on the tire — to give car owners "Most Miles per Dollar."

MOST MILES PER DOLLAR

Firestone

The Pulse of America's Winter Playground
THE FLAMINGO
The Hotel that inaugurated the new era of variety and luxury in southern outdoor recreation
Season Opens December 15
For Information and Booklet
Address C. M. KROM, Manager

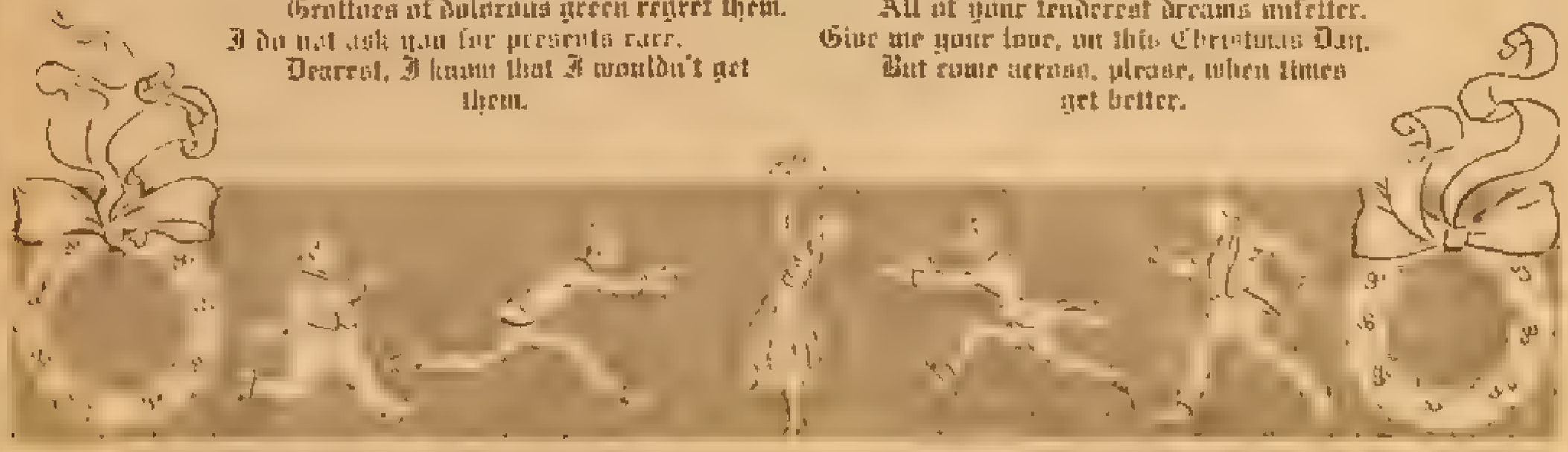
The Miracle Man

Christmas, 1921

Dorothy Parker

I do not ask you for presents rare,
Other-world trove of forgotten metals;
Orchids that opened to jungle air,
Tropical hate in their writhing petals;
Onyx and ebony, black as pain,
Carved with a patience beyond believing;
Perfumes, to harry the startled brain;
Laces that women have died in weaving;
Cool-tinted pearls from the ocean, where
Grottoes of dolorous green regret them.
I do not ask you for presents rare,
Dearest, I know that I wouldn't get them.

Give me your love, on this Christmas Day.
Give me your thoughts, when the chimes are ringing.
Send me the happier along my way.
Deep in my soul let your words be singing.
Give me your wishes, as bells sound clear,
Charming the air with their golden measure.
Give me your hopes for the unborn year.
Fill up my heart with a secret treasure.
Give me the things that you long to say.
All of your tenderest dreams unfetter.
Give me your love, on this Christmas Day.
But come across, please, when times get better.



The Knight Before Christmas

THE knight, before Christmas, observed to his spouse,
"I'm charmed with the service, all over the house!
The cook offers daily my favorite dishes;
The butler's a wonder at guessing my wishes,
The steward's all ginger, in spite of his years;
Wherever I glance, a retainer appears.
My barber excels in his deftness and speed;
The grooms puts a satiny gloss on my steed;
My armor is scoured till it dazzles my sight,
My sword and my spear are abnormally bright.
The sentinels never are guilty of naps;
My varlets are constantly doffing their caps.
Dear Mother-in-law has abandoned her rages;
My squire alertly turns down the fresh pages.
Nurse Margery curtsies, the kitchen-wench bows;
The rustics raise marvelous porkers and cows.
My minstrel's loud carols resound with my fame;
The jester's quaint stories are never the same.
It's pleasant to note (though the date is but recent)
Our people all acting so awfully decent!
This shows us, my dear, that with common accord,
They're happy to serve so distinguished a lord."

But his lady replied, with a smile on her lips,
"The season approaches for holiday tips,
And your motto is plain, if you'll read it aright:
'Merry Christmas to all, and to all a good knight!'"

Corinne Rockwell Swain

Working Overtime Just Now

Costa Rica, Quaint and Beautiful

FROM Port Limon to San Jose, Costa Rica, is one of the finest scenic railroad trips in the world. Gorgeous jungles, cloud-capped mountains, picturesque native life—all in a six-hour journey during which your train climbs from sea level to a mile-high elevation.

Enjoy this unique side trip on a Great White Fleet Cruise to the Caribbean. Delightful at any season. Twenty-three days of complete change and relaxation—the tranquil charm of long, lazy hours at sea, varied by interesting shore excursions in Cuba, Jamaica, Panama, Costa Rica, Colombia and Guatemala —depending on the Cruise selected. No passports or sailing permits required from American citizens.

Great White Fleet ships are specially constructed for Cruise Service. The newest and finest vessels sailing to the Caribbean. Unexcelled in appointments and cuisine.

From New York and New Orleans. Only one class—first class.

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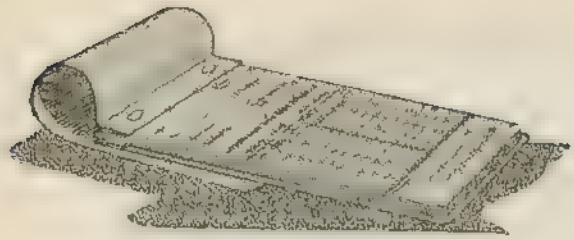

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management of the Federal Reserve System will be good insurance of an ultimate return to sound prosperity without a relapse into the depression from which we are now convalescing. The Federal Reserve Board must listen neither to the pessimists who can see no improvement on the one hand nor to the optimistic inflationists who by lowering the rediscount rates would try to boom business by providing cheap credit. Such inflation as they now desire might result in a return to the wild speculation of 1919 and bring a collapse more severe than the one we have gone through, but it would have little effect in stimulating business, except of a speculative character, and would retard instead of hasten the return of sound prosperity.

It is our habit to exaggerate the importance of untried remedies and to blame our ills on the thing nearest at hand regardless of its importance. If it is not increased freight rates, it is increased rediscount rates that caused the depression. And one element would repeal the higher freight rates (although they are not going to produce this year the average net earnings of 6 per cent. on the value of their property which Congress said the railroads are entitled to) and another would force a return to the low discount rates that the Reserve Board countenanced while our war financing had to be done. They would apply these "remedies" in the vain hope that they would bring back the "prosperity" of the war boom. So far, fortunately, there is no indication that the Reserve Board and the Interstate Commerce Commission are going to be influenced by the recommendations of these quack doctors.

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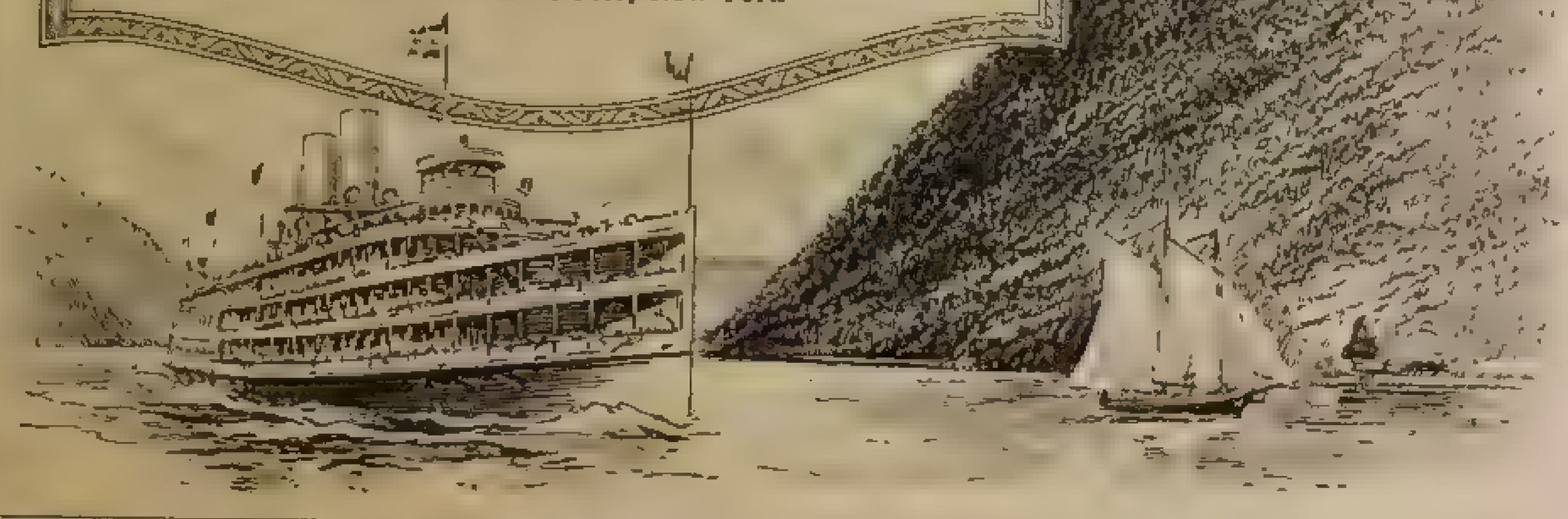

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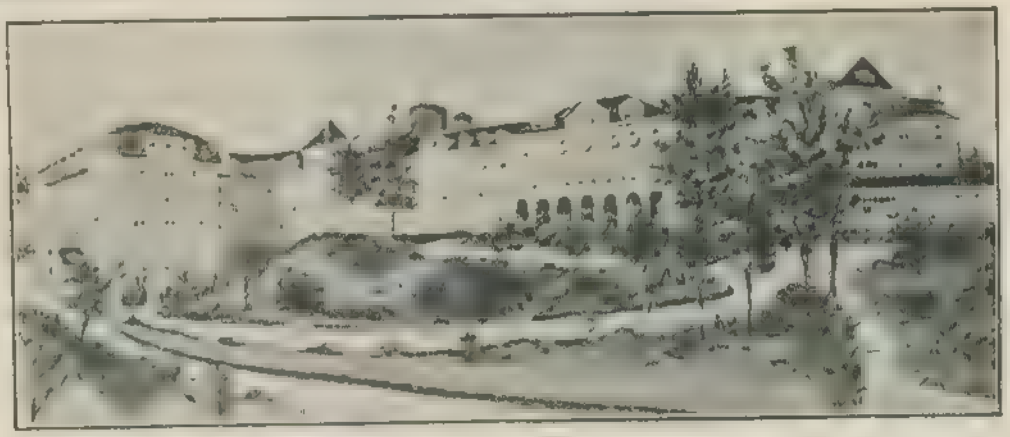

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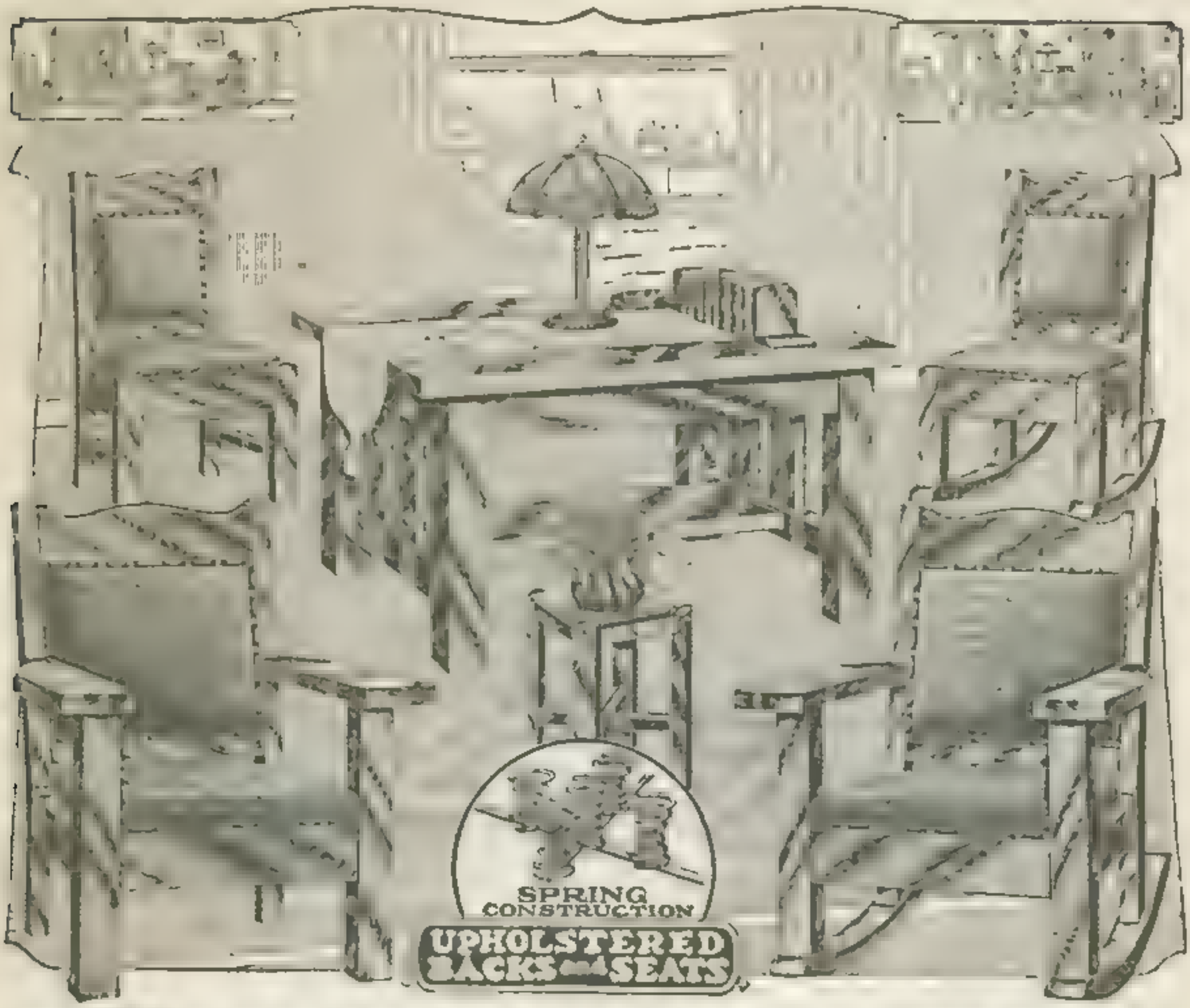

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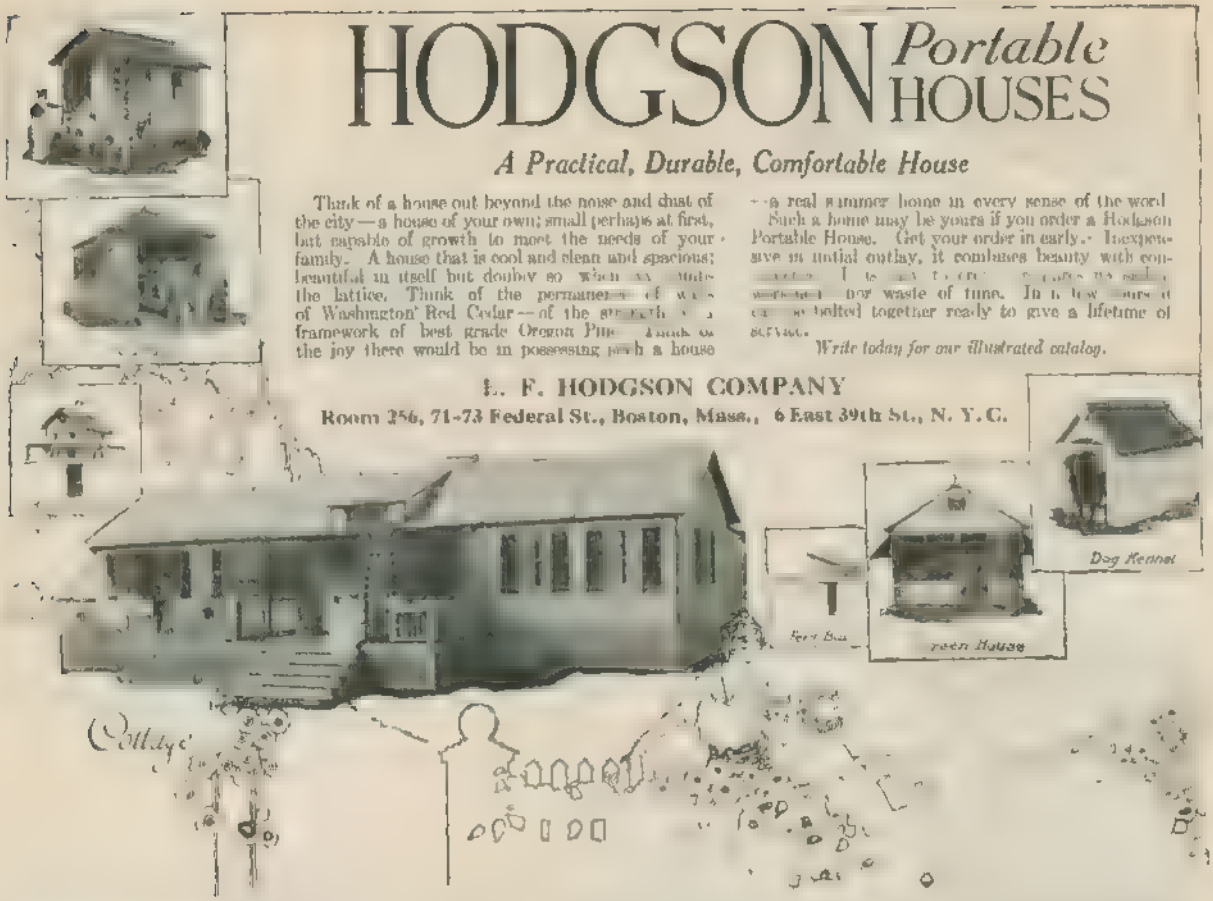

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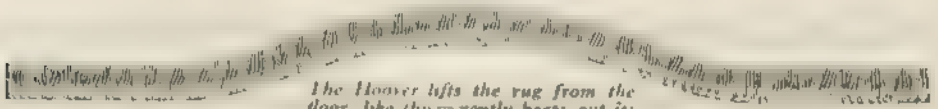
The HOOVER

It Beats — as it Sweeps — as it Cleans



The Hoover lifts the rug from the floor, like this — gently beats out its embedded grit, and so prolongs its life

HIS BODYGUARD

HIS BODYGUARD

Painted by Edw. V. Brewer for Cream of Wheat Co. Copyright by [illegible]

HIS BODYGUARD

REAM
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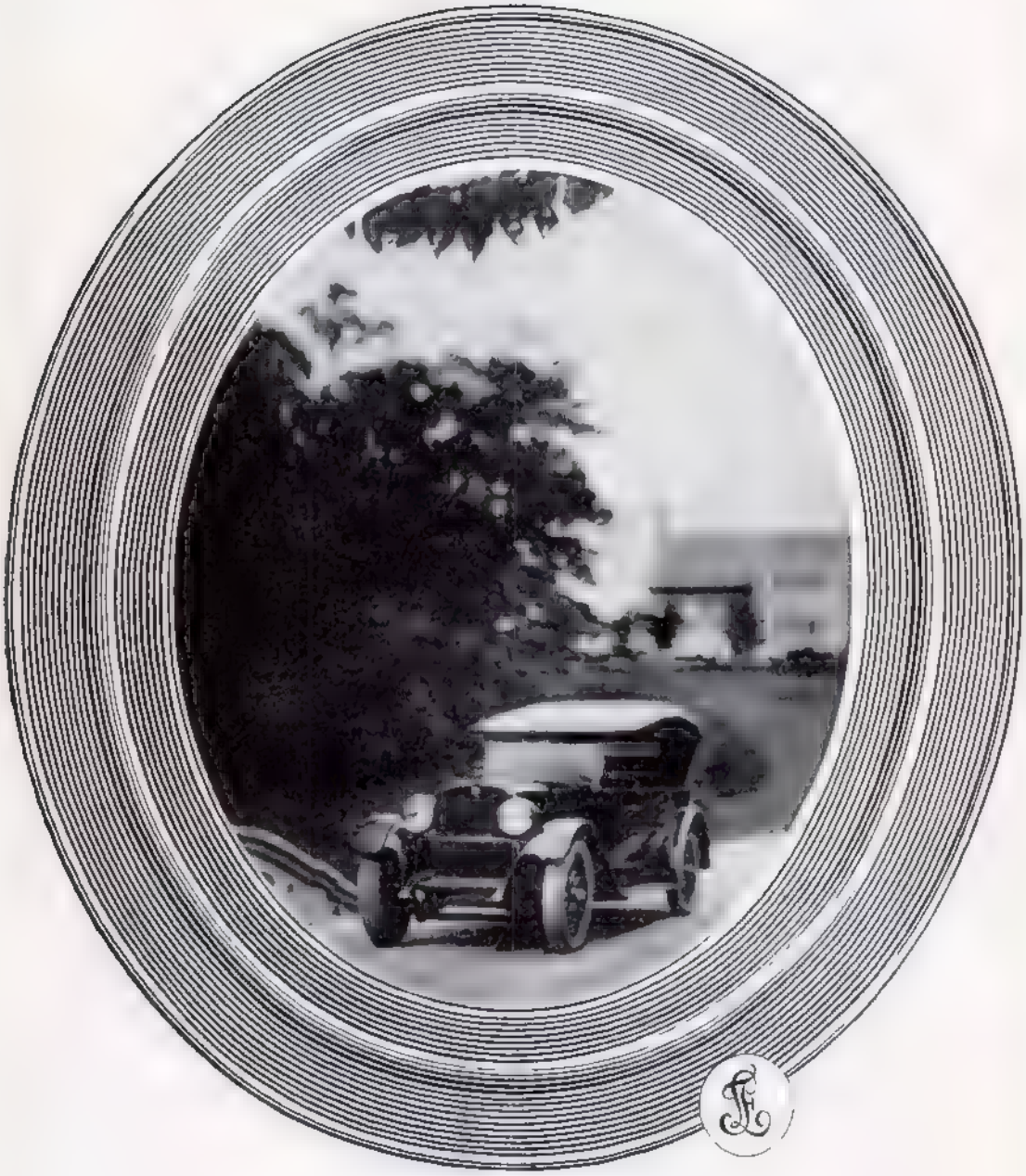
REAM OF WHEAT



Merely to see the LaFayette is to place high estimate upon it. For it is the kind of car the eye singles out in the multitude and follows with candid admiration

LAFAYETTE MOTOR COMPANY at *Mars Hill* INDIANAPOLIS

30

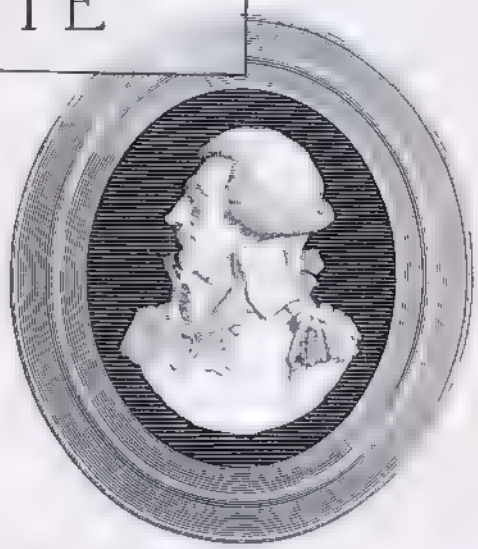
LAFAYETTE

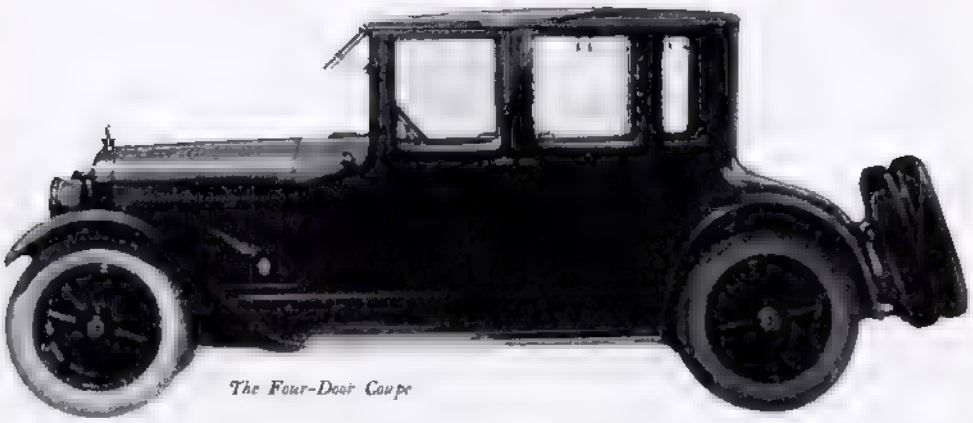
"Mention The Geographic—It identifies you"

WE had supposed, that, as time went on, we should lose inevitably a little part of the earnestness with which we began our work We had believed that as one car after another met our hopes and left our hands, the edge of our first concern surely would be somewhat turned by confidence, and by the familiarity that enters all accustomed tasks. We know now we were mistaken ⁂ Perhaps no other thing in this world is so well able to kindle and intensify a sensitive scruple in men as the good opinion and the firm faith of friends. What has been said about the car we build, by our own people, and more particularly, by those who own it, has acted upon us all as at once an encouragement and a solemn charge. More than at the very beginning, if that were possible, we seek now to make our product increasingly fine ⁂ It is a simple thing to say that every day we are trying to make our car, good as it is, a little better. But to us who know how profoundly good it was in the very beginning, and has been constantly since, it is far from being a simple thing to do You too will say this when you have known the admirable character of its quiet service. Nothing excelling its fine utility has so far graced the roadways of the world

LAFAYETTE MOTORS COMPANY at Work H[illegible] NAPOLIS

LAFAYETTE





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SOME DAY you will go for a ride in a LaFayette and forever after you will be its champion

It is a car made by men who know their work, a car built for those who love fine things

LaFayette Open Cars, $1850 at Indianapolis

LAFAYETTE MOTORS COMPANY

at Mars Hill, INDIANAPOLIS

LAFAYETTE

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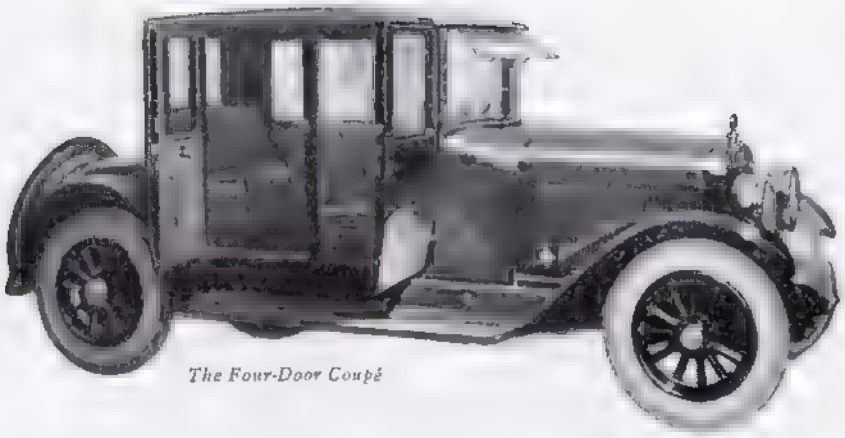


The Four-Door Coupé

YOU HAVE ALWAYS KNOWN THERE WOULD BE SUCH A CAR

The best LAFAYETTE advertisements are never published in any magazine or newspaper.

They are the words of praise free-spoken by those who have driven this car.

After your first ride in a LAFAYETTE you yourself will say, "I always knew there would be such a car."

From the moment you take the wheel and release that abundant flood of power you will be wholly won.

Fleet, eager, tireless, it lures you on, careless of distance, ruler of a hundred horsepower.

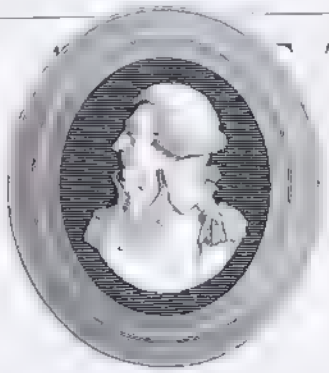
You will give up the wheel with reluctance at parting with this splendid car.

And forever after, whenever you drive another you will be impatient of its slightest fault.

After such a ride you will envy the LAFAYETTE owner the performance which is always his.

LAFAYETTE MOTORS COMPANY at *Mars Hill* [illegible] APOLIS

LA F[illegible]TTE



LAFAYETTE

Seeing the LAFAYETTE, one knows intuitively that it will serve capably for many, many years ✦ ✦ He senses likewise its superb activity and almost unbounded power ✦ ✦ He is sure also of its unhurried workmanship ✦ ✦ The guaranty of these is eminent engineering, for which no car is more notable than LAFAYETTE

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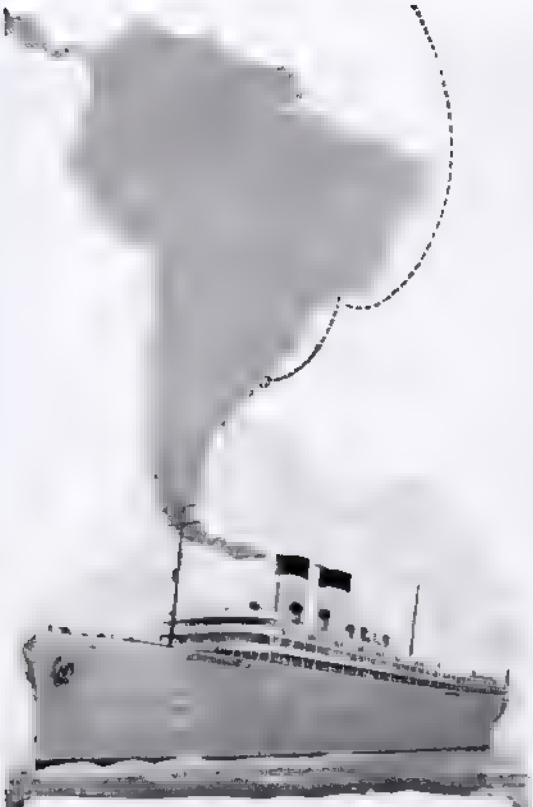

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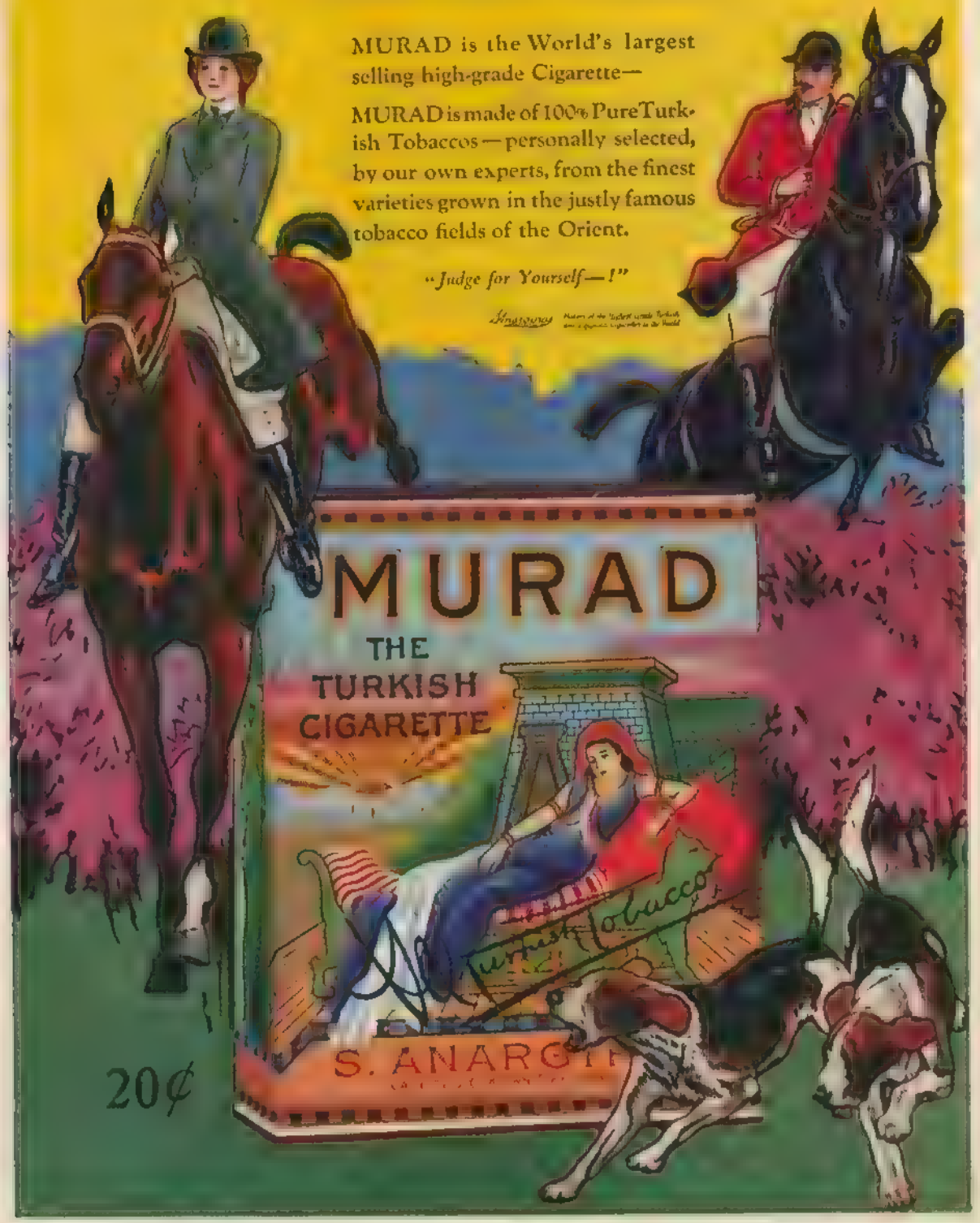

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THE TURKISH CIGARETTE
Why is Murad THE Turkish Cigarette?
Because it is made of the world's most famous varieties of Turkish tobacco.
"Judge for Yourself—!"
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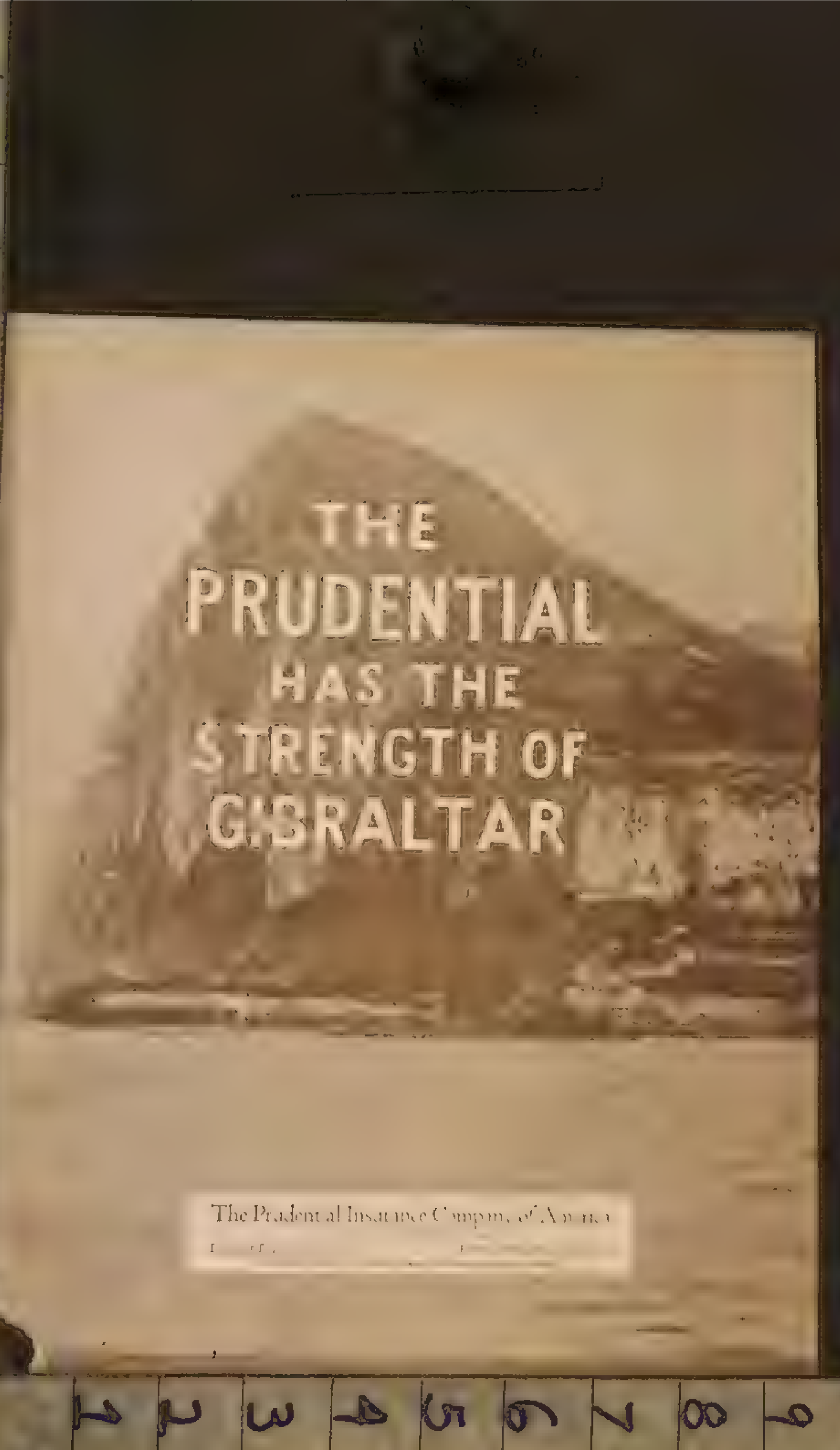
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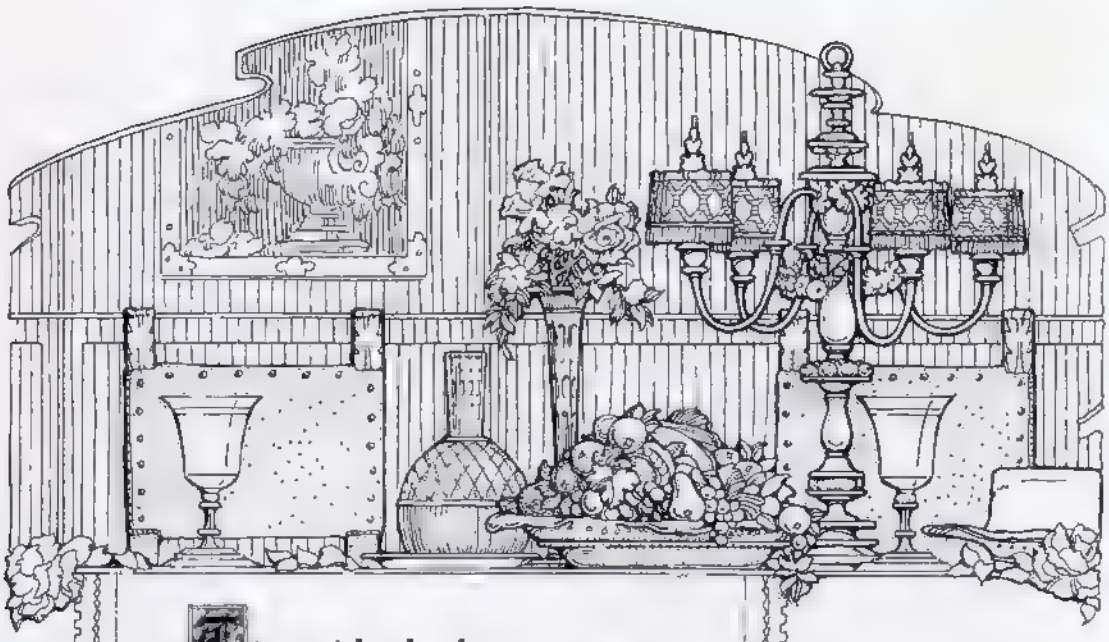


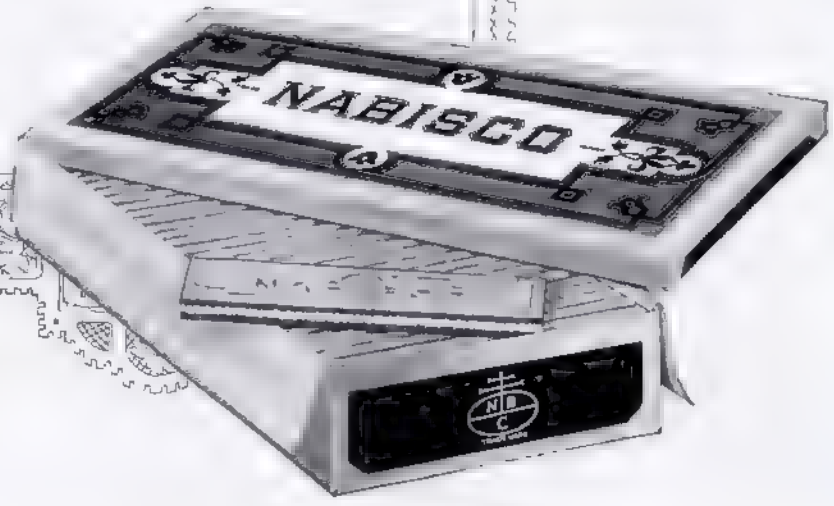
To enrich the banquet, or to make a banquet of a simple repast — Nabisco Sugar Wafers.

They blend with fruit, ices, beverages, and sherbets as joyous laughter blends with merry conversation. They solve many a problem of hospitality.

Sold in the famous N. B. C.
Trade Mark package

NATIONAL BISCUIT COMPANY

NABISCO
Sugar Wafers



"Miss Smith, how does Chicago stand today?"

The general manager without accurate records instantly available, is like a pilot without charts. Memory may fail; but *National Column Books* containing tabulated returns of his business, always ready for comparative reference, will remove the guess-work from his business administration.

National Loose Leaf and Bound Books for Every Record-Making Purpose

When in doubt as to the kind of Blank Book desired, always ask your stationer to show you the *National Column Books*—supplied in various sizes and many rulings, both bound and loose leaf forms. All "*Nationals*" are splendidly made and you will do well to remember the name and Eagle trade mark when buying office equipment.

You should write for a copy of "GOOD FORMS FOR ACCOUNTING", showing hundreds of ruled forms and bookkeeping devices regularly supplied in the famous *National Line*.

NATIONAL BLANK BOOK COMPANY

No. 6 Riverside, Holyoke, Mass.

BY NATIONAL

"I Hear . . ."

Millions of dollars each year are needlessly lost because of the whisper—

"I hear it is a good investment."

Through our 50 offices we "hear" thousands of such reports. Many are worthless.

Hearsay offers a broad road to mis-investment and loss.

To guide investors who want carefully weighed information, we maintain offices in the leading cities of the country and 10,000 miles of private wires.

Today, liberal returns may be had from well chosen securities. Look for them on our current list. Sent on request for C.E.-170

THE NATIONAL CITY COMPANY
NATIONAL CITY BANK BUILDING
NEW YORK

BONDS
SHORT TERM NOTES
ACCEPTANCES

The National City Company

National City Bank Building, New York

Offices in more than 50 leading cities throughout the World

Oil Experts Make Millions

The history of the Oil Industry in the United States reads like a fable. No other industry is expanding so rapidly. From 377 million barrels in 1919 to 444 million barrels in 1920—an increase of 67 million barrels in a single year, gives you an idea of its growth. Two-thirds of all the oil used in the entire world is produced by the Oil Industry of the United States, the third of the country's great industries.

50,000 miles of oil pipe line with 5000 miles of new line built every year—250,000 producing oil wells with 4000 new wells drilled every month 1712 new oil companies formed in 1920 with a capitalization of $2,780,814,000, tell briefly the magnitude of the Oil Industry in this country.

Oil, oil, more oil is the constant cry of America's industrial demands.

Men, men, more men, the cry of this under-manned industry.

Be a Certified Petroleum Expert

Trained oil men in every branch of the oil industry are at a premium as never before. Geologists who locate oil fields—oil drillers—pipe line superintendents—pipe line builders—refiners (chemists and still men)—oil salesmen—oil mechanics—all earn from 2 to 10 times what similar time and labor in other fields bring.

$50 and Even $250 a Day

Petroleum geologists earn $50 to $250 a day. Oil salesmen as high as $15,000 a year—even unskilled rig-builders readily get $5.0 to $15 a day—all because there is a shortage of men in the oil business. But fortune and progress reward only those who know the business.

A New Big Opportunity

No matter what your present business or education, there is some practical phase of the oil industry that will appeal to you that you can master and earn big money right from the start. Besides big earnings right from the beginning you are constantly with men who are making millions every year.

We Teach You How

Our practical course will teach you the geology of the oil fields, drilling methods, and the refining and marketing of oil.

Get Our Free Book

It tells all about this fascinating business for real men. Fully illustrated, packed full of facts about our course. It means success for you. The course costs very little—the book costs absolutely nothing. Yours for the asking. Get started now. Write us today. Address Dept. A.

Petroleum Extension University

Ontario and St. Clair Streets

CHICAGO, ILL.

BOYCE MOTO-METERS

The Boyce Moto-Meter is a motor heat gauge attached to the radiator cap of automobiles, trucks and tractors. It accurately registers condition in which gasoline motor is operating by registering the temperature of the vapor directly above the water in the radiator.

As the water in the bottom of the radiator is several degrees cooler than at the top, the temperature of the air over the water represents the average temperature of the entire cooling system rather than just one part of it.

Therefore the Boyce Moto-Meter gives an accurate reading irrespective of the quantity of the water in the radiator.

Under normal conditions no modern automobile engine will overheat. It is only through negligence in applying water and oil, or the breakdown or failure of operation in some of the parts of the engine, that causes overheated engines with the consequent damage.

Realizing that the motorist has no way of detecting overheated engines from the many causes before danger results—the Boyce Moto-Meter was invented to give the driver an accurate knowledge as to the exact temperature at which his engine is operating, and without leaving his seat

It is absolutely reliable insurance against unnecessary, costly repairs.

STANDARD MODEL

UNIVERSAL MODEL

STANDARD MODEL

A perfect heat recording instrument of the highest type with extremely broad ribbon-bore thermometer tube Because of its perfection of workmanship, the Standard Model has been selected as regular equipment on America's leading cars.

Size, 3⅝x5⅛ inches. Weight, packed in carton, 16 ounces.

Price..... each **10.00**

UNIVERSAL MODEL

Slightly smaller than the Standard Model, finished in all nickel. A most beautiful instrument. The beveled crystals add to its appearance. Its handsome face is more easily read than a clock.

Size, 3x5 inches. Weight, packed in carton, 12 ounces.

Price..... each **7.50**

OVERLAND MODEL

Designed especially for Overland cars, having an *oval* radiator cap, such as on the Overland "4."

Price, Standard.. .. .each **10.00**
" Universal... ... " **7.50**
" Junior . ... " **5.00**
" Midget..... " **2.50**

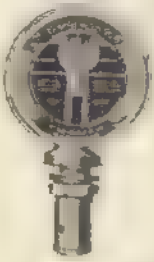
When ordering, specify Overland Model.

Write us Your Requirements for Goods Not Listed.

BOYCE MOTO-METERS

CONTINUED

DE LUXE MODEL



TRUCK AND TRACTOR MODEL

DE LUXE MODEL

This model is all that the name implies, having been designed for the highest grade passenger cars. The case is nickel plated and the finish of the entire instrument is of the highest quality of workmanship. Size, 3⅜x5¾ inches; weight, packed in carton, 20 ounces.
Price .... each **15.00**

TRUCK AND TRACTOR MODEL

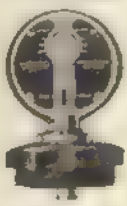
Designed especially for severe conditions so often met with in truck and tractor service. The casing is nickel-plated. The diameter of the tube is one-half inch, which makes breakage impossible. The frame is very substantial and the thermometer tube thoroughly protected. Size, 2⅞x4¾ inches; weight, packed in carton, 10 ounces.
Price... .... each **10 00**

JUNIOR MODEL

This model appeals strongly to owners of cars of medium size. The frame is heavily nickel-plated, and it has the same range of temperature as the Standard and Universal Models. Size 3x4⅞ inches, weight packed in carton, 8 ounces.
Price..... .... each **5.00**

MIDGET MODEL

SPECIAL MODEL FOR FORD



MIDGET MODEL

Especially designed to meet the demand of the small or light car owner. Combines accuracy with sturdiness of construction. Size, 2¼x3⅜ inches; weight, packed in carton, 5 ounces.
Price .. . . each **2.50**

SPECIAL MODEL FOR FORD

The beauty of this instrument on the radiator cap of a Ford, together with its utility, is an investment that every Ford owner should make. Complete with handsome radiator cap. Size, 2⅜x3⅞ inches; weight, packed in carton, 7 ounces.
Price.... ..... each **3.50**

DISTANCE TYPE, MODEL A

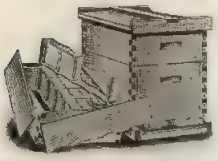
Especially designed for installation where the radiator type instrument cannot be installed on a line with the operators' vision, as on aeroplanes, motor boats, stationary engines, tractors, automobiles and for laboratory testing purposes. Finished with black enameled case, 3⅝ inches in diameter, nickel-plated rings, beveled crystal, and red and white pointer.

The temperature ranges from 32° to 212° F. Complete with 5 feet of tubing and hose connections.
Price each **18.00**

For other models of distance type instruments with longer tubing lengths, greater temperature ranges, special fittings, etc., write for special literature.

BEE-KEEPERS' SUPPLIES.

HIVES.



Illustrating the 1½ Story Hive which takes the 4½x4½x1⅞ in. Scolloped Sections.

Wood Cover.

	Net each
NO. 40E—8 frame, no sections or starters	6.80
NO. 41E—10 frame, no sections or starters	7.40

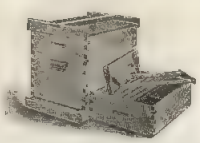
FIVE IN A CRATE.

We do not break crates.

We carry No 40E only in stock. Other numbers can be shipped promptly from Council Bluffs.

To complete one hive use 24 sections and ½ lb. comb foundation.

HIVES.



Dovetailed Hive No. 48, for Extracted Honey, 1½ Story.

	Net each
NO. 48 — 8 frames, 1½ story, super and shallow frames	$6 90
NO. 49 — 10 frames, 1½ story, super and shallow frames	7 20

BROOD FRAMES.

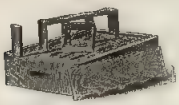
Hoffman, Self-Spacing Frames.

These frames are furnished with all of our dovetailed hives, the top bar is 19 inches long and 1 1/16 inch wide and ⅞ inch thick narrowing at the ends for easy finger-hold size of frame 17⅜x9⅛ standard Langstroth size. The end bars are ⅝ inch thick and 1⅜ inch wide at the wide end one edge V shaped so that when placed in the hive they space 1⅜ inches wide from center to center, with ¼ inch space between the frame tops and the super above. For convenience in shipping, and to prevent the corner strips from getting out, the top bar is so milled that the strip cut from the corner of the bar is held to the top bar by a thin sliver which is easily broken when the foundation is inserted and the strip toe-nailed in place

	Net per 100
NO. 90	$12.30

ONE HUNDRED IN A PACKAGE.

SCOLLOPED SUPERS.



Shallow Dove-tailed Super with Scolloped Section Holder.

For scolloped 4¼x4¼x1⅞ in. sections used on Dove tailed hives No. 40 and 41. This is the super more generally used on Dovetailed hives than any other

This super is the same size as the hive body except that it is the depth of 4¼ inches. The section holders No. 6 are scolloped to exactly correspond with the size and shape of the scolloped sections. The section holders we send out with the supers are for 1⅞ inch wide sections, unless otherwise ordered.

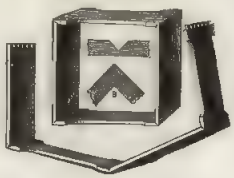
	Net each
NO. 60E — 8 frames, no sections or starters	$1.64

FIVE IN A CRATE

WE DO NOT BREAK CRATES.

To complete one super use 24 sections and ½ lb. comb foundation.

SECTIONS.



Size 4½x4½x1⅞ in., Scolloped.

The SCOLLOPED SECTION is one of the oldest forms with a comb foundation starter attached. The edges have scollops or bee-ways cut into the top and bottom edge. Of these the standard size seems to be the 4½x4½x1⅞ in. and unless you mention any other size in your order that size will be sent.

		Net In lots of 1000
NO 2171	No. 1 grade	$24.00
NO. 2172	—No. 2 grade	23.10

FIVE HUNDRED IN A BOX

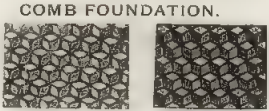
We do not break boxes.

SECTION HOLDERS.

These are used in supers No. 60 and 61, to support scolloped sections 4¼x4¼x1⅞ in. used in these supers. The bottom bars are ¼ inch thick and 1⅞ inches wide, with inserts to correspond to those cut in sections. The ends are 4¼x1⅞x¼, they have no top bar

	Net per 100
NO. 97—Flat 1⅞x18⅛ in	$9 20

COMB FOUNDATION.



Nos. 224 and 226 Nos. 228 and 229

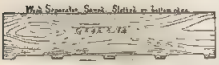
In starting a swarm, the use of Foundation in the board chamber is indispensable as it forces the bees to build their combs straight so that the frames may easily be removed and examined. FULL SHEETS of medium or light brood foundation are always the best as they save the bees time and labor but often times on account of the cost the bee-keeper does not care to give them so much, but you should give at least a strip of brood foundation for a starter, it will help much more than it costs you in getting straight even combs.

In sections only the thin or extra thin grade should be used, the best results are obtained by using a bottom starter, not over ¾ in. wide and a full sheet on top, reaching to within 3-16 in. of the bottom starter

	Per lb.
NO. 224—Medium brood foundation, for Langstroth size frames used in Dovetailed and Langstroth hives, in sheets 8x16½ in., about 7 sheets per pound.	
NO. 226—Light brood foundation, for wired Langstroth size frames; in sheets 8x16½ in., about 9 sheets per pound.	
NO. 228 Thin surplus foundation, for section boxes only, in sheets 2⅞x16½ in., about 25 sheets per pound.	
NO. 229 Extra thin surplus foundation, for section boxes only, in sheets 3⅛x16½ in., about 30 sheets per pound.	
NO. 224	$1.60
NO. 226	1.64
NO. 228	1.72
NO. 229	1.80

ONE POUND IN A BOX.

SCOLLOPED WOOD SEPARATORS.



18⅛ inches long, 4½ inches wide, scolloped on the lower edge, used with scolloped section-holders and scolloped sections, in supers No. 60, and hives Nos. 40 and 41.

	Net per 100
NO 100	$3 40

BROOD FRAMES.

Shallow Extracting Frames.

These are made like the Hoffman style of frames, ⅞ in. deep, top bar, 1⅛ in. wide, ⅜ in. thick, with angle groove for comb-foundation. Bottom bar is ⅜ in. wide and ¼ in. thick; the end bars are Hoffman self-spacing style, ⅞ in. deep, and are pierced for wire. These just fit into the deep super bodies or extracting supers.

	Net per 100
NO. 92 Shallow frames, in flat	$9.00

BOGALUSA

Trade Mark Reg. U. S. Pat. Office

SOUTHERN PINE

Extra Dense—Long Leaf

All Items from Lath to Bridge Timbers

Manufactured and rigidly graded, at the mill, in accordance with specifications of American Railway Engineering Assn., the Factory Mutuals, American Society for Testing Materials, and So. Pine Assn.

Long and Short Leaf

YELLOW PINE TIMBERS

Ties, Piling, Car Material

Yard Stock, Box Shooks

12 Saw Mills—75,000,000 feet stock on hand

Kirby-Bonner Lumber Company

Houston, Texas

BRANCH OFFICES:

New York, Chicago, St. Louis, Kansas City, Oklahoma City, Waco, San Antonio, New Orleans, Mobile, Havana.

Great Southern Lumber Co., Bogalusa, La. .....See Advt. Index, Page 7
Manufacturers of "BOGALUSA" Brand Extra Dense Longleaf Southern Pine in all lumber items. The largest sawmill in the world. Send for booklet

Gross Manufacturing Co., Jacksonville, Fla.

Gruner & Bros. Lumber Co., Phillip, 4002 N. Broadway, St. Louis, Mo. See Page 7
Hammer Lumber Co., Philadelphia, Pa.

Hayden & Westcott Lumber Co., 923 Railway Exchange, Chicago .....See Page 7

Heidritter Lumber Co., The, Pine St. & New Point Rd., Elizabeth, N. J.
Fir, Yellow Pine, Oregon Pine Spruce, Hemlock, White Pine, ready for immediate shipment from stock, by Rail, Lighter, or Truck from Piasmg Mills.
Helen Lumber Co., Helen, Fla.
Hickson Lumber Co., Lynchburg, Va.

Hill-Behan Lumber Co., 6200 Page, St. Louis, Mo......See Advt. Index, Page 7
Houston & Co., Geo T., Vicksburg, Miss
Houston Tie & Lumber Co., Houston, Tex.

International Creosoting & Construction Co., Galveston, Tex. See Advt. Index, Page 7

Jeffris Lumber Co., D. E., 630 Lumber Exchange Bldg., Chicago .. See Page 7

Johnson, Inc., Thos. V., 423 E. Water St., Milwaukee, Wis See Advt. Index, Page 7

Johnson Lumber Company, 427 E. Water St., Milwaukee, Wis ... See Page 7

Jones Lumber Company, Inc., The R. T., North Tonawanda, N. Y. See Page 7

Joy-Tarbell Lumber Co., 206 S. LaSalle St., Chicago..... See Advt. Index, Page 7
Kent Co. J. S., Philadelphia, Pa.

Kirby-Bonner Lumber Co., 1st National Bank Bldg., Houston, Tex.. See Page 7
Long and Short Leaf Yellow Pine timber, lumber, ties, piling, boxes and box shooks. The Company pays special attention to Railroad and Industrial trade. Operates twelve saw mills, cutting a cut of seventy-five million feet on stand. Box factory located in Houston, Texas; saw mills in East Texas. Shipping capacity eighty cars per day. Mills have low rates to tidewater, and export shipments are made through all West Gulf ports.
Leach & Co., L. D., Chicago.
Long-Bell Lumber Co., The Kansas City, Mo.
McGowin-Foshee Lbr Co., Falco, Ala
Morshon Lbr. Co., John D., Saginaw, Mich.

Mickle Lumber Co., Geo. T., 30 N. LaSalle St., Chicago.....See Advt. Index, Page 7
We specialize in furnishing in both Yellow Pine and Fir, heavy mill construction buildings—Plate girders, joists, factory flooring roofing, also hardwood flooring. Railroad and Car Construction lumber, Bridge, Dock, Ship and Mine timbers.
Miller-Brent Lumber Co., Poley, Ala.
Miller-Wells Lumber Co., The, Cleveland, O.

Specify BOGALUSA Products

Creosoted or plain items of lumber and timbers definitely superior in character and manufacture, and the responsible Service you would expect from the

Largest Saw Mill in the World

Authoritative Pine Statistics in the BOGALUSA Booklet—Write

GREAT SOUTHERN LUMBER COMPANY

1624 Fourth Ave., Bogalusa, Louisiana

BOGALUSA

Trade Mark Reg. U. S. Pat. Office

Mammert Lumber & Tie Co., McCormick Bldg., Chicago.

Nicols, Stone & Myers Co., The, Cleveland, O. .....See Advt. Index, Page 7

Norris Lumber Co., W. R., Houston, Tex.

Parks Lumber Co., Fred H., Seattle, Wash.

Pickering Lumber Co., The W. B., R. A. Long Bldg., Kansas City, Mo.. See Page 7

Dense, Virgin Grown Calcasieu Long Leaf

Ritter Lumber Company, W. M., Columbus, Ohio. (North Carolina.) ..See Page 7

Sabine Lumber Co., Wright Bldg., St. Louis, Mo.

Sears, Roebuck & Co., Chicago ... See Page 7

Seidel Lumber Co., Julius, 2000 So. Kingshighway, St. Louis, Mo.

Seippel Lumber Co., Peter J., Dubuque, Ia.

Sterlas Lumber Company, Easton, Pa.

Smith, Fassett & Co., 1000 Little Island, North Tonawanda, N. Y.....See Page 7

Soper Lumber Co., Chicago.

Southern Pine Association, New Orleans, ...See Advt. Index, Page 7

Sterner Lumber Company, E. J., Newark, N. J.. See Advt. Index, Page 7

Yard and mill deliveries on any quantity and any kind of lumber, specializing in Yellow Pine, Fir, Maple Flooring Spruce and Hemlock

St. Louis Lumber Co., St. Louis, Mo.

Stone, Frank B., Railway Exchange, Chicago. .....See Advt. Index, Page 7

Sumter Lumber Co., Electric Mills, Miss.

Talahatchie Lumber Co., Philipp, Miss.

Thornton Yancey Lumber Co., Chicago

Western States Lumber Co., Kansas City, Mo

Whitaker Lumber Co., 1176 Arcade Bldg., St. Louis, Mo.. See Advt. Index, Page 7

Wilbur Lumber Co., 68 Wisconsin St., Milwaukee, Wis.

Yellow Pine Co., of Philadelphia, 15th and Chestnut Sts., Philadelphia, Pa.

"Carrying complete stock of Long Leaf and Short Leaf Pine in Philadelphia Yard. Shipping direct from Southern Mill any thing in Yellow Pine, Short Leaf Pine or Hardwood, White Pine and Hemlock. Also Oregon Pine shippers. Yellow Pine structural timber specialty."

Lumber, Pine, Yellow

(The following list is comprised only of members of the Southern Pine Association For advertisement of the following concerns, see Advt. Index, Page 7.)

ALABAMA

Alberdell Mills, Thomaston.
Alger-Sullivan Lumber Co., Foshee.
Allison Lumber Co., Bellamy.
Ark-Ala Lumber Co., Wetumpka.
Berry-Reeves Lumber Co., Pinebelt.

(Continued on following page)

LUMBER

LUMBER THAT BUILDS GOOD WILL

E. J. STERNER COMPANY
INCORPORATED
30 CHURCH ST. NEW YORK, N.Y.

Yellow Pine—White Pine—Douglas Fir—Spruce—Hemlock—Maple Flooring—Oak Flooring—and Millwork.

By freight—motor or lighter to any point desired.

DALION PHONOGRAPHS.

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE.

PLAYS ALL MAKES OF RECORDS.

Nationally Advertised—The Finest Instrument That Human Ingenuity Can Make.

The Instrumentized Tone-Throat—The triumph of the Dalion, embodying the scientific principles of instrument makers, applied through the deft skill of hand workers. Their careful, individual shaping of the long seasoned wood is not factory work but the prideful touch of the real instrument maker. Its result is the tone inimitable of the Dalion.

Orchestra-Shell Tone Chamber—This is the amplifier that makes the tone "carry." Here, in this all-wood sounding chamber, shaped as scientifically as an orchestra shell, the Dalion gets its wonderful resonance and clarity.

Motors—Two and three spring, according to size of instrument. Long running, easy-winding and guaranteed against spring breakage.

Volume Regulation—An inconspicuous adjustment at the side of the cabinet suits the volume of sound to the room without affecting its true tone quality its effect is of distance, not a throttle or muffler.

Record Self-Stop—Automatically halts the disc at the last note of the record.

Cabinet Work—Selected wood, specially treated to give permanence to acoustic qualities, and its delicate grain brought out with the richest skill of the finisher's art.

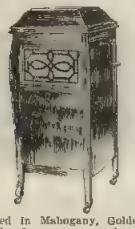
The Auto-File—Makes the misplacement or confusion of records impossible. The individual Auto File for records is the most startling innovation ever conceived—taking care of the phonograph record problem.

Not only is it the neatest and most compact of record-filing devices, but it makes it totally impossible to misfile or misplace your records, no matter how hurried you may be. Guests or children cannot mix them up; there is no exasperating hunt through home heaps or clumsy albums to find the one you want.

Furnished complete with handsome Index Book, without extra cost, in most models of the Dalion.

THE DALION GUARANTEE.

The most sweeping warrant ever put behind a phonograph. It protects you against spring breakage, and all dissatisfaction that a maker could possibly be blamed for. Behind it is the triple responsibility of a local store, a great distributing house and the Dalion factory.



Retail Each $95.00

Finished in Mahogany, Golden Oak and Fumed Oak. Large, easy-winding, two-spring motor. One winding plays five records. Universal tone arm plays all makes of records. Four shelves for records. Metal parts heavily nickeled.

Size 42¾ inches high.

NO. 10GO	Golden Oak	List each $95.00
NO. 10FO	Fumed Oak	List each 95.00
NO. 10M	Mahogany	List each 95.00

Shipping weight 140 lbs.

Retail Each $130.00

With "Auto-File."

Finished in Mahogany, Golden Oak and Fumed Oak. Large, easy-winding, 2-spring motor. One winding plays five records. Universal tone arm plays all makes of records. Automatic record stop. Individual "Auto-File" for records. Metal parts heavily nickeled.

Size 45 inches high.

NO. 20GO	Golden Oak	List each $130.00
NO. 20FO	Fumed Oak	List each 130.00
NO. 20M	Mahogany	List each 130.00

Shipping weight 165 lbs.

Retail Each $175.00

With "Auto-File."

Finished in Mahogany, Golden Oak and Fumed oak Large, easy-winding, 2-spring motor. One winding plays five records. Universal tone arm plays all makes of records Automatic record stop. Individual "Auto-File" for records. Metal parts heavily nickeled.

Size 48 inches high.

NO. 30GO	Golden Oak	List each $175.00
NO. 30FO	Fumed Oak	List each 175.00
NO. 30M	Mahogany	List each 175.00

Shipping weight 180 lbs.

Retail Each $110.00

Finished in Mahogany, Golden Oak and Fumed Oak. Large, easy-winding, two-spring motor. One winding plays five records. Universal tone arm plays all makes of records. Automatic record stop. Four shelves for records. Metal parts heavily nickeled.

Size 45 inches high.

NO. 15GO	Golden Oak	List each $110.00
NO. 15FO	Fumed Oak	List each 110.00
NO. 15M	Mahogany	List each 110.00

Shipping weight 150 lbs.

Retail Each $145.00

Finished in Mahogany, Golden Oak and Fumed Oak. Large, easy-winding, 2-spring motor. One winding plays five records Universal tone arm plays all makes of records Automatic record stop. Four shelves for records. Metal parts heavily nickeled.

Size 48 inches high.

NO. 25GO	Golden Oak	List each $145.00
NO. 25FO	Fumed Oak	List each 145.00
NO. 25M	Mahogany	List each 145.00

Shipping weight 170 lbs.

Retail Each $190.00

With "Auto-File."

Finished in Mahogany, Brown Mahogany and Fumed Oak. Large, easy-winding, 2-spring motor. One winding plays five records. Universal tone arm plays all makes of records. Automatic record stop. Individual "Auto-File" for records. Metal parts heavily nickeled.

Size 49 inches high.

NO. 35FO	Fumed Oak	List each $190.00
NO. 35M	Mahogany	List each 190.00
NO. 35BM	Brown Mahogany	List each 190.00

Shipping weight 190 lbs.

For Discounts and Terms, See Page 2163.

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE.

DALION PHONOGRAPHS.

PLAYS ALL MAKES OF RECORDS.

For Full Description See Page 2162.

Retail Each $230.00

With "Auto-File."

William and Mary Design, in brown mahogany only. Large, easy-winding, three-spring motor. One winding plays seven records. Universal tone arm, playing all makes of records. Individual "Auto-File" for records. Automatic record stop. Metal parts gold plated.

Size 50 inches high.

NO. 40BMG Brown Mahogany only... .....List each $230.00

Shipping weight 190 lbs.

Retail Each $265.00

With "Auto-File."

Louis XVI design, brown mahogany Large, easy-winding, three-spring motor. One winding plays seven records. Universal tone arm, playing all makes of records. Individual "Auto File" for records. Automatic record stop Metal parts gold plated.

Size 48 inches high.

NO. 50BMG—Brown Mahogany only... ..List each $265.00

Shipping weight 185 lbs.

Retail Each $600.00.

With "Auto-File."

Queen Anne Period Console Model. Electrically equipped. Universal tone arm, playing all makes of records. Individual "Auto-File" for records. Automatic record stop. Metal parts gold plated.

Size 37½ inches high.

NO. 60—Finished in Brown Mahogany and American Walnut .. List each $600.00

Shipping weight 280 lbs.

DISCOUNT ON "DALION" PHONOGRAPHS

Class "C" Dealer—Discount 33⅓% F. O. B. Omaha

Class "D" Dealer—Discount 35% and 5% F. O. B. Omaha, on initial order of $514.00 net

Class "A" Dealer—Discount 40% F. O. B. Omaha, on an initial order of $999.00 net.

Class "AA" Dealer, or Sub-Jobber—Discount 40% and 5% F. O. B. Omaha on an initial order of $3,500.00 net.

Special Notice—When a merchant has purchased within a period of a year, enough machines to qualify in a higher class, he will at that time commence to receive the new discount.

Split Shipments In order to qualify under any particular class when opening a new agency, the merchant may place an order for the required amount, but may split the shipment into two deliveries or more

Exclusive Agency -We will not consider any merchant an exclusive agent until he has purchased and we have shipped three machines amounting to $255.00 net, and he has signed up in duplicate our regular Retail Dealers' Agreement Blank.

Special Arrangement—In order to make it an incentive for all of our agents to feature the sales of "Dalion" Phonographs, we have decided to rebate at the end of the contract year, on all machines shipped where an agent qualifies for a higher class.

Here is an example: If John Jones signs up a Class "C" contract at 33⅓% discount, and at the end of the year he has bought, and we have shipped five machines or a total amount of $514.00, entitling him to Class "B" discount, 35% and 5% discount, we will issue a rebate covering the difference between 35% and 5%, and the price charged, 33⅓%, on all of the machines shipped during the contract year

If the sales are sufficient to qualify for a Class "A" contract, we will rebate on the 40% discount basis, etc.

"DALION" ADVERTISING MATTER

We are in position to furnish our agents the following advertising matter.

No 1—**Small Folders.** Containing pictures, description of various Dalion Models with new list prices; small quantities furnished blank from Omaha stock; larger quantities furnished with merchant's imprint gratis from the factory.

No. 2—**Movie Slides.** Imprinted with merchant's name, furnished gratis from the factory.

No 3—**Set of 8 Feature Cards.** Describing sales features of Dalion Phonographs, for window display.

No. 4—**Indoor Display Cards. Set of 3.** Size 11x21 inches.

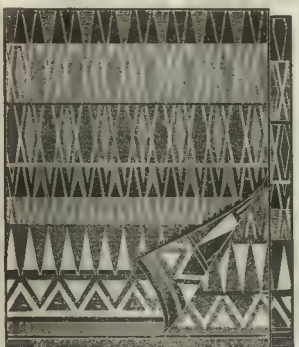
No. 5—**Electrotypes.** As described in Folder or in Portfolio. Order by number

No. 6—**Booklets.** "My Five Tests for Phonograph Buyers," which will be mailed out to a number of prospective Phonograph buyers if merchant will furnish the names. These are not mailed in quantities to the merchant as they are expensive and are for direct advertising only. When these booklets are sent out, they will be accompanied with a good letter. This work is done gratis.

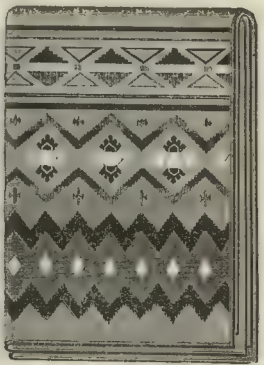
No. H7 **Metal Road Signs.** Size 16x28, very handsome in attractive colors, showing a Dalion Phonograph and lettering, furnished by the factory with merchant's imprint, 25 for $12.50. No imprint for less than 25. This is actual cost. Additional quantities, 50c each.

No. 7—**Metal Road Signs.** Size 10x28, very handsome in attractive and bright colors, showing a Dalion Phonograph and lettering, furnished by the factory with merchant's imprint, 25 for $12.50, no imprint for less than 25. This is the actual cost; additional quantities 50c each.

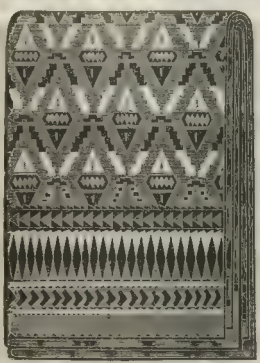
Esmond Indian Blankets



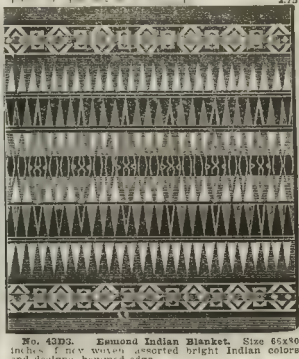
No. 43D2. Esmond Indian Blanket. Fancy woven size 66x8[illegible] inches, [illegible] design and colors, cortex finish, hemmed edge.
Each 2.95
In case lots of [illegible] each 2.75



No. 43D1. Esmond Indian Blanket. Fancy woven, size 64x78 inches, [illegible] Indian designs and colors, cortex finish, hemmed edge
Each 2.95
[illegible] 2.75



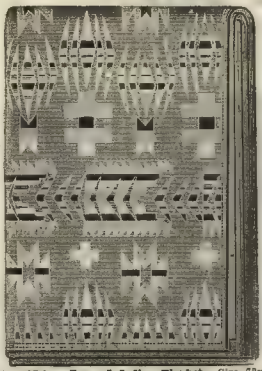
No. 43D21. Esmond Indian Blanket. Fancy woven, size 64x78 inches, [illegible] all around, two-inch mercerized silk binding, assorted rich Indian colors and designs. Each 3.50



No. 43D3. Esmond Indian Blanket. Size 66x80 inches, fancy woven, assorted bright Indian colors and designs, hemmed edge
Each 3.50

No. 43D31. Esmond Indian Blanket. Same as above, [illegible] all around with two-inch mercerized silk binding. Each 4.00

Esmond Indian Blankets



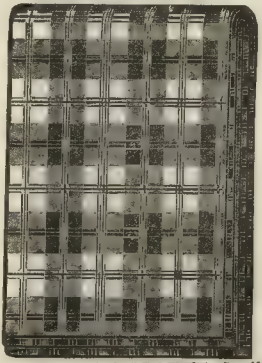
No. 43D4. Esmond Indian Blanket. Size 72x84 inches. Fancy woven, cortex finish, assorted bright Indian colors and designs, hemmed edge.
Each 3.95

No. 43D15. Esmond Indian Blanket. Size 72x84 inches, bound all around with two-inch mercerized silk binding, a wonderful range of beautiful Indian colors and designs, exceptional value.
Each 5.20

ESMOND INDIAN ROBE

No. 43D6. Esmond Indian Robe. Size 66x80 inches, fancy woven cortex finish, bound all around with two-inch binding, assorted bright colors in authentic Indian designs.
Each 5.00

TWO-IN-ONE BLANKET



No. 43D9. "Two in One" Bed Blanket. Size 66x84 inches, hemmed edge, fancy plaids, assorted colors; cortex finish. Each 4.75

GENCO RAZORS

THERE IS A GENCO RAZOR FOR EVERY KIND OF BEARD AND SKIN

Fig. 41238A

GENCO SENECA CHIEF

BLADE.— Ground full concave

FINISH.— Finely polished.

WIDTHS.— ⅝, ¾-inch

POINTS.— Round and honed

HANDLE.— Cocobolo, oval with metal tips.

Price .. .. each 4.00

GENCO HENRY'S XXX

BLADE — Ground ¾-concave with high thin bevel

FINISH.— Extra fine polish

WIDTHS.— ⅝, ⅝ and ¾-inch

POINTS — Round and honed.

HANDLE.— Imitation ivory, oval, with metal tips

Price..... each 3 00

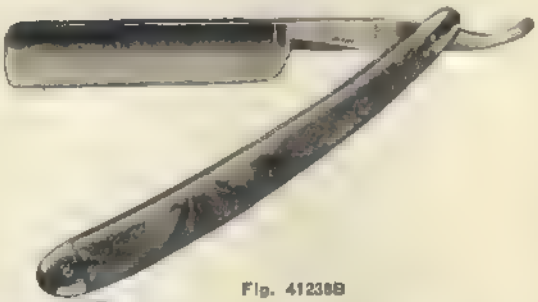


Fig. 41238B

Fig. 41238C

GENCO GRANT

BLADE.— Forged with oval tang. Ground special concave.

FINISH.— Finely polished.

WIDTHS.— ⅝, ¾-inch

POINTS.— Round and honed

HANDLE.— Imitation ivory, oval with metal tips

Price ..... each 3 00

GENCO HENRY'S XX

BLADE.— Ground ½-concave

FINISH — Fine polish

WIDTHS.— ⅝, ¾-inch

POINTS — Round and honed

HANDLE.— Imitation shell, oval, with metal tips

Price. .....each 2 50

Fig. 41238D

Write us Your Requirements for Goods Not Listed.

For Nearly a Century the Store of Service.

GENCO RAZORS

GENCO GOLD SEAL

BLADE.— Ground extra full concave. Oval tang.

FINISH.— Highly polished, with back and tang heavily gold plated.

WIDTHS.— 9/16, 5/8, 11/16-inch

POINTS.— Straight, round and honed

HANDLE.— Transparent amber, flat with beveled edges

Price ..... each 5.00

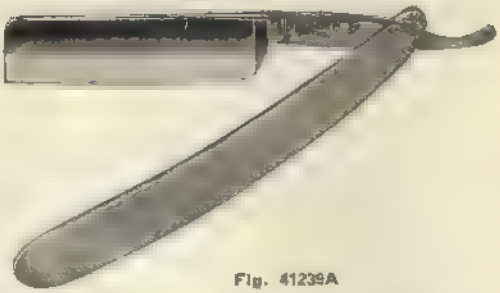


Fig. 41239A

Fig. 41239B

GENCO EXPERT

BLADE.— Ground extra full concave.

FINISH.— Extremely fine polish, highly colored.

WIDTHS.— 9/16, 5/8, 11/16-inch

POINTS.— Straight, round and honed

HANDLE.— Imitation ivory, flat with beveled edges and round ends

Price ..... each 5 00

GENCO VANADIUM

BLADE.— Ground full concave.

FINISH.— Finely polished.

WIDTHS.— 9/16, 5/8, 11/16 inch

POINTS.— Straight, round and honed.

HANDLE.— Imitation tortoise-shell, flat, beveled edges, square ends

Price ..... each 4.00

Fig. 41239C

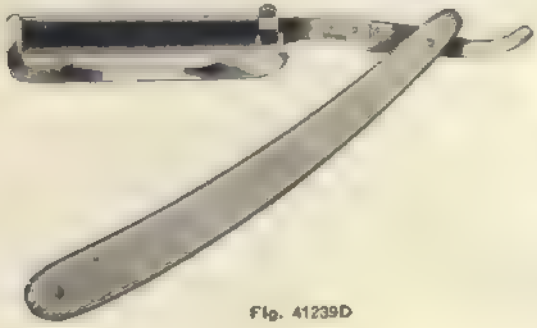


Fig. 41239D

GENCO SAFEGE

The Safege is really a standard type Genco Razor with a handle that has been specially shaped to [illegible] while the [illegible]

BLADE.— Special [illegible]

FINISH.— Finely polished

GUARD.— Alloy silver, non-rusting.

WIDTH.— 5/8-inch only

HANDLE.— Imitation ivory, flat, beveled edges

Price ..... each 3.50

Cameo Brooches

Fine solid gold mountings. All have patent safety catches. The cameos are all carefully selected and the cutting, workmanship and finish are of the best. Quality guaranteed.

No. 36J1. Cameo Brooch, solid gold English finish, hand engraved design with genuine pink and white cameo.
Each 3.25

No. 36J2. Cameo Brooch, solid gold mounting, with green gold fancy pierced Grecian border, extra fine, genuine pink and white shell cameo, Patented safety catch.
Each 3.75

No. 36J3. Cameo Brooch, solid gold mounting, English finish, fancy hand engraved, extra fine genuine pink and white shell cameo. Patented safety catch.
Each 3.75

No. 36J4. Cameo Brooch, solid gold mounting with green gold fancy pierced Grecian border, extra fine genuine pink and white shell cameo .Patented safety catch.
Each 4.35

No. 36J5. Cameo Brooch, solid gold mounting, English finish, fancy hand engraved, extra fine genuine pink and white shell cameo. Safety catch.
Each 4.25

No. 36J6. Cameo Brooch, solid gold, square shape mounting, rose gold, fancy pierced Grecian border, English finish turned edges with extra fine genuine pink and white shell cameo Patented safety catch.
Each 4.75

No. 36J7. Cameo Brooch, solid gold, genuine pink and white shell cameo, set in hand pierced fancy mounting, English gold finish, patent safety catch.
Each 3.00

No. 36J8. Cameo Brooch, solid gold, square shape mounting, rose gold, fancy pierced Grecian border, English finish, turned edges with extra fine, genuine pink and white shell cameo. Patented safety catch.
Each 3.25

No. 36J9. Cameo Brooch, solid gold, English gold finish, octagon shape, hand engraved mounting, with genuine pink and white selected cameo, patented safety catch.
Each 5.25

No. 36J10. Cameo Brooch, solid gold, rose gold, octagon shape, fancy mounting, with genuine pink and white shell cameo, patented safety catch.
Each 5.25

No. 36J11. Cameo Brooch, solid gold, genuine pink and white shell cameo, set in fancy Grecian design mounting, Roman finish, patent safety catch.
Each 5.75

No. 36J12. Cameo Brooch, solid gold mounting with green gold, fancy pierced Grecian border, extra fine genuine pink and white shell cameo. Patented safety catch.
Each 6.00

ILLUSTRATIONS EXACT SIZE

Cameo Brooches

Fine solid gold mountings. All have patent safety catches. The cameos are all carefully selected and the cutting, workmanship and finish are of the best. These brooches represent the most popular styles and every one is an exceptional value. Illustrations exact size. Quality guaranteed.

ILLUSTRATIONS EXACT SIZE

No. 36J13. Cameo Brooch, solid gold mounting, green and English gold, fancy hand pierced and engraved, set with genuine pink and white shell cameo, patented safety catch to prevent losing

Each 6.50

No. 36J14, Cameo Brooch, solid gold, rose gold, fancy Grecian design, mounting set with large selected pink and white shell cameo, patented safety catch to prevent losing Each.. .... 7.25

No. 36J15. Cameo Brooch, solid gold, square shape mounting, rose gold, fancy pierced Grecian border, English finish turned edges, with extra fine genuine pink and white shell cameo. Patented safety catch.

Each 7.50

No. 36J16. Cameo Brooch, heavy solid gold mounting, English finish, fancy pierced border, extra fine genuine pink and white shell cameo. Patented safety catch to prevent losing.

Each 8.50

No. 36J17. Cameo Brooch, solid gold, hand engraved, green gold mounting, set with large genuine pink and white shell cameo. Patented safety catch to prevent losing. Each 7.50

No. 36J18, Cameo Brooch, heavy solid gold mounting, English finish, fancy, hand engraved, extra fine, genuine pink and white shell cameo. Patented safety catch.

Each 8.75

No 36J19. Cameo Brooch, solid gold, fancy design, rose gold mounting, set with large selected pink and white shell cameo. Patented safety catch to prevent losing. Each 7.25

No. 36J20, Cameo Brooch, solid gold, rose gold mounting, fancy pierced Grecian design, turned shell cameo. Patented safety catch to prevent losing.

Each 8.25

No. 36J21. Cameo Brooch, solid gold, fancy scroll design mounting, English gold finish, raised green gold leaves with large genuine pink and white shell cameo. Patented safety catch to prevent losing. Each 11.00

NEW CARS AND MODELS

Marmon Announces New Closed Bodies

THE Nordyke & Marmon Co., builders of the Marmon 34 and located in Indianapolis, have announced that their own body shops are now turning out the bodies for closed models in the Marmon line. The three models announced are the Sedan, Suburban and Coupe. These bodies impress one immediately as being very low-built and still possessing roominess and a large amount of window space. One of the features of the windows is the slanting windshield, with its good road visibility. A sunshade adds to the protection of the driver and another convenience is the automatic windshield cleaner, vacuum controlled. The seating arrangement in all three cars is conventional.

The appearance of lowness is amply borne out by the actual dimensions. The total height of the car is only 76 in., although the 51½ in. from the floor to the top in the Sedan and Suburban and 50 in. in the Coupe insure comfort. The design of the Marmon chassis, which permits the placing of the

New Marmon Suburban

This model sells at $5425. It differs from the Sedan only in the glass partition between the two compartments. The glass may be raised or lowered as desired.

New Marmon Coupe

This has a seat for two behind and to the right of the driver and a folding seat for the fourth person. The price of the coupe is $4875.

New Marmon Sedan

The price of the Sedan model is $5275. This model carries five people in the rear compartment and two in the front.

NEW CARS AND MODELS

body directly on the frame, with the floor sunk a trifle below the upper frame line, makes it possible to build such low bodies, and this lowness is a factor in bringing about the balance of the car, to say nothing of the ease of entering and alighting.

An interesting feature of the construction is the care taken to guard against the possibility of squeaks and rattles developing from hard usage. All of the joints have been welded inside and out.

The closest attention has been paid to the upholstery of these cars. Auxiliary seats, as well as permanently placed seats, have been finished with one principal thought—comfort. The upholstery material is of a fine, long-wearing cloth. On the seats a striped pattern is used, and on the sides and for the headlining a plain cloth. The carpet matches the upholstery. Curtains in the Sedan and in the Suburban are placed in the rear window, rear quarter windows and rear doors.

The interior fixtures are of a distinctive Marmon design—window regulators, door handles and lighting fixtures. Among the minor conveniences are the two dome lights in the Sedan and the Suburban, the use of hassocks in place of the usual foot rail, and the silk robe rail.

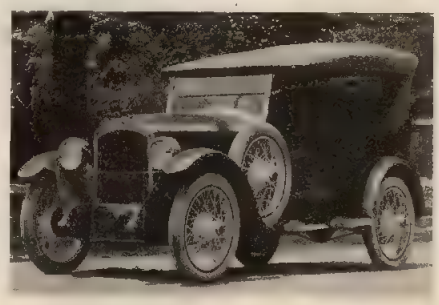
The impression of roominess is backed up by the unusually large windows with square corners, the large doors, and the care in arranging the seats.

New Columbia Challenger

This illustration shows a photograph of the Challenger Touring Model produced by the Columbia Motors Co., Detroit, manufacturers of the Columbia Six. A coupe and sedan will be announced as additional models in the Challenger line and will retail at $1995. The five-passenger touring model, illustrated herewith, sells at $1195. Challenger models are equipped with Rutenber engines and Adams axles and the chassis specifications are the same as those of the Columbia, except that the automatic shutters and Flometer device are not included. The car has 115-in. wheelbase, Brown-Lipe differential, Harrison radiator, Borg & Beck clutch, Gemmer steering gear, Stromberg carburetor, Atwater Kent ignition, Auto-Lite starting.

Anderson Ultra-Sport Touring Car

This illustration shows the latest product announced by the Anderson Motor Co. of Rock Hill, S. C. This car has conservative lines and is built on the standard Anderson chassis. Six disk wheels with cord tires (wire wheels optional) are included in the equipment. Other items are the traveling trunk, suitcases, special windshield and barrel headlights. Option of three colors is given, Twentieth Century Red, Maples Yellow or Moleskin with leather upholstery to match. Step plates with rubber pad inserts are used in place of the usual running boards. The price of this model is $3395, f. o. b. Rock Hill.

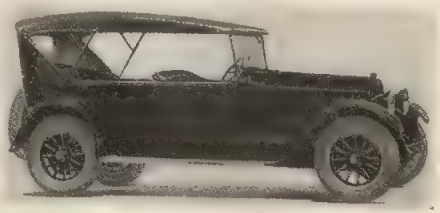


New Cadillac Type 61 Improved and Beautified

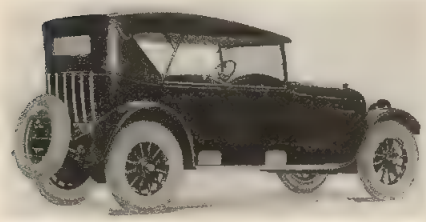
MANY refinements of appearance, riding qualities and appointments serve to distinguish the new Type 61 Cadillac from its predecessors. It is essentially refined, and the following changes will be found noted briefly.

The radiator is higher and of a more graceful pattern. The hood is also different in shape and the snappy-appearing headlights and sidelights are equipped with non-glare lenses. One of the greatest changes is the bringing of the car closer to the ground, and the mounting of all models on a 132-in. wheelbase chassis. Tires also are 33 x 5-in. cords

spark and throttle levers are small and enclosed except for the handle ends. The instrument board is new and exceedingly attractive. Electrical meters and pressure gages are artistically grouped under one small circular unit and the mixture control buttons, headlight deflector control, light, switches, etc., are orderly arranged. Pedals are non-adjustable and of duralumin. A gearshift lever lock is built in. The ventilator is improved and has greater capacity, and windshield cleaner and rear-view mirror are standard equipment. A leather-covered visor is equipment on closed models.



The Type 61 Cadillac Touring, Showing the New Radiator and the All-around Lower Appearance.



The New Cadillac Four Passenger Phaeton, Showing the New Trunk Rack.

Two new models feature the new Type 61. These are the 2-passenger coupe, which resembles the roadster in respect to seating and storage space, and the 4-passenger coupe

The Appointments

The steering wheel rim and spokes are made entirely of selected walnut, as is also the horn button. The tilting feature of the steering wheel has been eliminated, and

The phaeton and 5-passenger sedan have an extremely attractive trunk-carrier, and the gasoline filler cap on these models has a curved extension through the side support of the rack. Six vertical aluminum strips protect the body and add to the appearance from the rear. Kick-plates under the doors is another feature of these two models. The roofs of closed models are of a new soft construction. *(Concluded on page 68)*

NEW CARS AND MODELS

(*Continued from Page 55*)

Cadillac Chassis Changes

A new carburetor with 2-in. intake is another feature. A thermostat attached to the auxiliary air valve spring adjusts the spring tension according to temperature and automatic adjustment for a rich mixture for acceleration when the engine is cold is another interesting feature. Camshaft bearings are now oiled by the hollow camshaft.

A 2-pole generator in place of the 4-pole is another noticeable change, and another very important feature is the long shafts to operate the water pump drain cocks, making draining of the cooling system an easy matter. The engine hood is sheet aluminum.

Although tire sizes are smaller, the road clearance remains the same, due to a slight reduction in size of the rear axle housing. Clutch and brake pedals and mechanism are now equipped with bronze bushings with graphite inserts, thus reducing the labor in greasing the car. A new type of grease cup is supplied at various points on the chassis. This cup has a piston and wing-nut and forces grease to the bearings under pressure up to 300 or 400 lb.

The Type 61 will have ten body styles, the roadster, phaeton and touring in the open models, and the 2 and 4-passenger coupes, the 4-passenger victoria, 5-passenger sedan, 7-passenger suburban, 7-passenger limousine and the 7-passenger imperial limousine as the closed models

Glidden to Build Cars

Charles J. Glidden, donor of the Glidden trophy and world automobile tourist, has re-entered commercial life as the president of the Martin Motor Co., of Springfield, Mass. The company was recently organized to manufacture a small car designed by Charles H. Martin, of the Martin Rocking Fifth Wheel Co. The car, which will be made almost entirely of aluminum and duralumin, will carry two persons.

New Car With Wideley Motor Under Construction

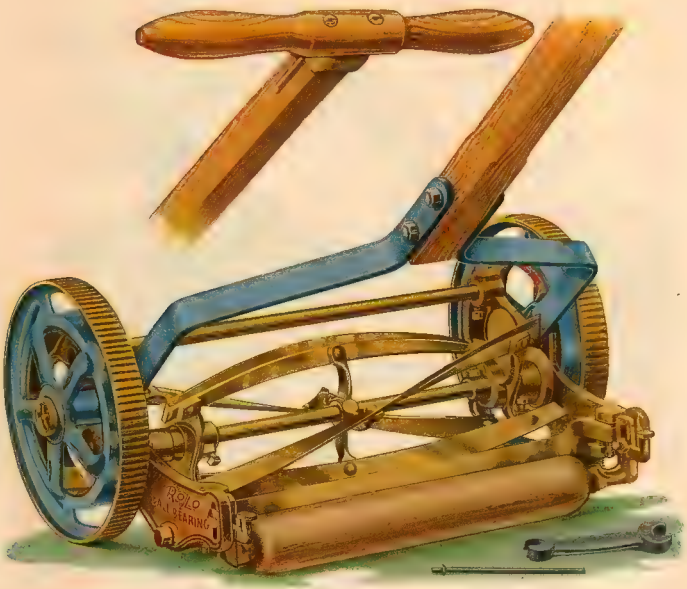
A firm to build custom-made passenger cars is now being planned by John H. Neskov, of the Neskov-Mumperow Motor Car Co., of St. Louis. The first two cars designed by John A. Schroeder are now under construction and will be exhibited at the Automobile Exposition in St. Louis, October 15 to 22

The new car is to be equipped with a four-cylinder Wideley motor, 3¾ x 5½, with a Salisbury three-quarter floating rear and a 125-in. wheelbase. Car will be built in four-passenger sport and three-passenger speedster models, and will sell for about $2600

New Moon 8-48 Brougham

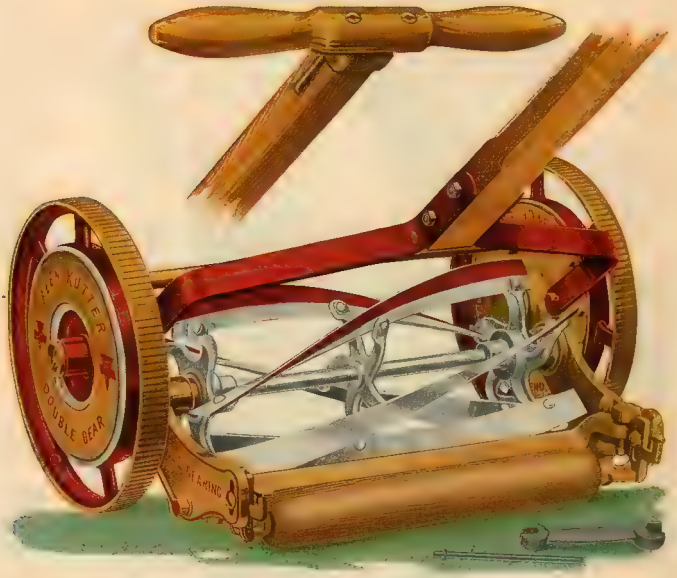
This illustration shows the new Moon Brougham known as "La Petite" Sedan, which sells at $2785 f.o.b. factory. The woodwork and fittings are of the latest design and extremely neat. The interior body is trimmed in 20-oz. imported silk finished blue broadcloth The rear quarter and back windows have roll curtains of blue silk and front seat is equipped with a silk robe rail. Interior hardware is of the Colonial period design with French gray silver finish. Both door handles contain a locking device An instrument light and reading light are other equipment features, the latter lighting also when the doors are opened. Windows operate in a channel felt guide and the window lift is worm gear type. Doors have rubber weather-strips and are covered with broadcloth. The two front seats are bucket-type with folding backs, the driver's being adjustable. The other bucket seat is movable to the left 12 in. to give a passageway to the rear seat, which accommodates three passengers. There is storage space under the rear seat and in the rear deck. The door to the latter is 7 x 42 in., and has a gutter and drain pipe. Cowl ventilator, tilting steering wheel, and heater are supplied The body is 14 gage aluminum finish Versailles blue

ROLO HIGH WHEEL LAWN MOWERS



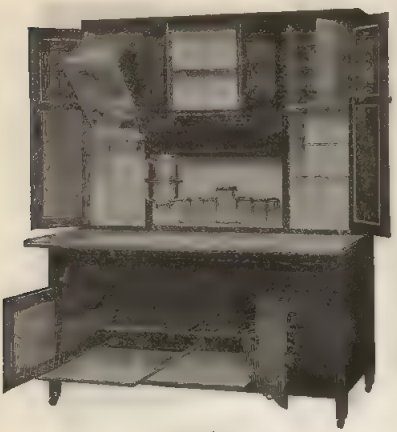
No. RO/16 ROLO, BALL BEARING, DOUBLE GEAR

KEEN KUTTER HIGH WHEEL LAWN MOWERS



No. KNDH16 *KEEN KUTTER* DOUBLE GEAR, BALL BEARING, HIGH WHEEL

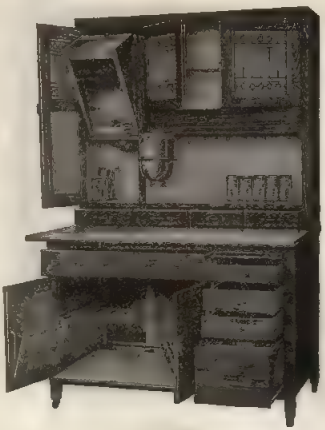
KITCHEN CABINETS.



No. 85-90.
Four Feet and Eight Inches Wide.

Oak. Finished golden oak. Waxed. Nickeled trimmings. Interior of top compartment white enameled. Drop roll curtain. Glass jar equipment. Metal bread drawer. Sliding polished metal or white porcelain top on base. Height 73 in., width 58¼ in., depth 28 in., crated weight 300 lbs.

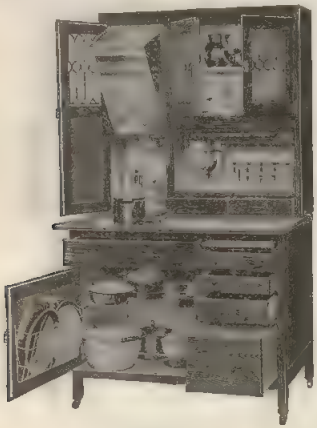
	Net each
With sliding polished metal top	$100.00
With sliding "Albairon" white porcelain top	112.00



No. 86-91.
Four Feet Wide.

Oak. Finished golden oak. Waxed. Nickeled trimmings. Interior of top compartments white enameled. Drop roll curtain. Glass jar equipment. Metal bread and cake drawer. Sliding polished metal or white porcelain top on base. Height 73 in., width 48 in., depth 28 in., crated weight 260 lbs.

	Net each
With sliding polished metal top	$88.00
With sliding "Albairon" white porcelain top	96.00



No. 74-16

Oak. Finished golden oak. Waxed. Nickeled trimmings. Interior of top compartments white enameled. Drop Roll Curtain. Glass jar equipment. Metal bread and cake drawer. Sliding polished metal or white porcelain top on base. Height 70 in., width 40 in., depth 28 in., crated weight 220 lbs.

	Net each
With sliding polished metal top	$76.00
With sliding "Albairon" white porcelain top	82.00

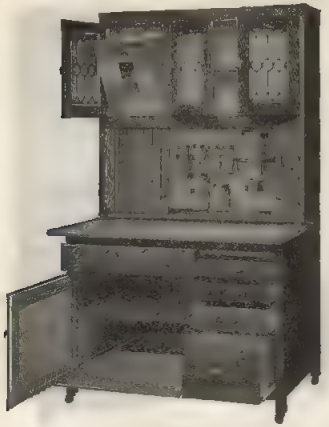
No. 28-25.

Oak. Finished golden oak. Waxed. Nickeled trimmings. Interior of top compartments finished white. Drop roll curtain. Glass jar equipment. Metal bread and cake drawer. Sliding polished metal or white porcelain top on base. Height 70 in., width 40 in., depth 25 in., crated weight 200 lbs.

	Net each
With sliding polished metal top	$60.50
With sliding "Albairon" white porcelain top	66 50

F. O. B. GOSHEN, IND.

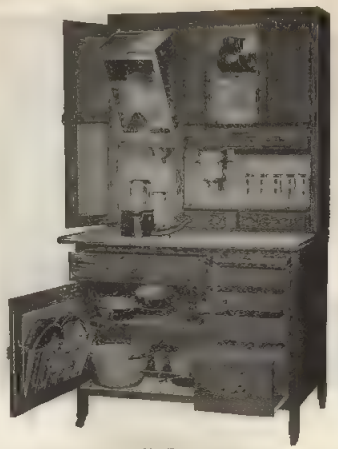
KITCHEN CABINETS.



No. 76-16.

Oak. Finished golden oak. Waxed. Nickeled trimmings. Interior of top compartments white enameled side roll curtains. Glass jar equipment. Metal bread and cake drawer. Sliding polished metal top or sliding "Albairon" white porcelain top. Height 70 in., width 40 in., depth 28 in., crated weight 230 lbs. Net each

With sading polished metal top $73.00
With sliding "Albairon" white porcelain top..... 79.00



No. 75-17.

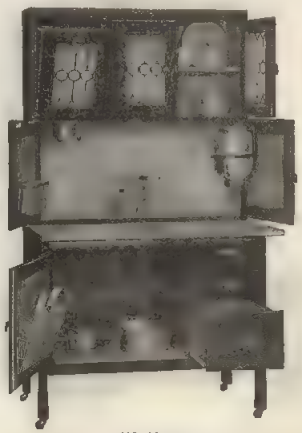
Oak. Finished golden oak Waxed Nickeled trimmings. Interior of top compartments white enameled. Drop roll curtains. Glass jar equipment. Metal bread and cake drawer. Sliding polished metal top or sliding "Albairon" white porcelain top. Height 70 in., width 40 in., depth 28 in., crated weight 230 lbs. Net each

With sliding polished metal top $75.00
With sliding "Albairon" white porcelain top..... 81.00

No. 71-16.

Oak. Finished golden oak Waxed Nickeled trimmings Interior of top compartments white enameled. Glass jar equipment. Metal bread and cake drawer. Sliding polished metal top or sliding "Albairon" white porcelain top. Height 70 in , width 40 in , depth 28 in., crated weight 230 lbs. Net each

With sliding polished metal top $74.00
With sliding "Albairon" white porcelain top..... 80 00



NO. 22-25.

Oak. Finished golden oak. Waxed. Nickeled trimmings. Interior of top compartments white enameled. Glass jar equipment. Metal bread and cake drawer. Sliding polished metal top or sliding "Albairon" white porcelain top. Height 70 in., width 40 in., depth 25 in crated weight 200 lbs. Net each

With sliding polished metal top $57.00
With sliding "Albairon" white porcelain top..... 65.00

F. O. B. GOSHEN, IND.

AXES.

KEEN KUTTER SINGLE BIT.

All KEEN KUTTER Handled Axes have Handles FASTENED WITH OUR E. C. SIMMONS PATENT WEDGE, which will Positively Prevent the Head from Flying Off the Handle.

No KY15T.

Soft Steel Body; Hardened Poll, Highest Grade Crucible Forged Steel Bit, HAND TEMPERED; GOLD BRONZED, WITH POLISHED HEAD AND BIT, KEEN KUTTER Trade Mark Design Etched in Deep.

NEW YANKEE PATTERN.

No. KY15T—With Cumberland Oval Handle No. CA, 30 in. Long.

Handled with Cumberland Medium Selection Hand Shaved Hickory Handle.

Weight of Head, lbs.	3 to 3½	3¼ to 3¾
Weight per dozen about, lbs.	52	55
Per dozen	$43.50	$3.50

One Dozen in a Crate, Heads Enclosed, Handles Projecting, Wrapped in Paper and Burlapped.

No. KY15—WITHOUT HANDLE.

Weight each, lbs.	3 to 3½	3¼ to 3¾
Weight per dozen about, lbs.	48	45
Per dozen	$33.00	33.00

Soft Steel Body; Hardened Poll; Highest Grade Crucible Forged Steel Bit, HAND TEMPERED; GOLD BRONZED, WITH POLISHED HEAD AND BIT; KEEN KUTTER Trade Mark Design Etched in Deep.

CONNECTICUT PATTERN, PLAIN.

No. KC/15T—With Cumberland Oval Handle No. CA, 30 in. Long.

Handled with Cumberland Medium Selection Hand Shaved Hickory Handle.

Weight of Head, lbs.	3 to 3½	3¼ to 3¾
Weight per dozen about, lbs.	52	55
Per dozen	$43.50	$3.50

One Dozen in a Crate, Heads Enclosed, Handles Projecting, Wrapped in Paper and Burlapped.

No. KC/15—WITHOUT HANDLE.

Weight each, lbs.	3 to 3½	3¼ to 3¾
Weight per dozen about, lbs.	48	45
Per dozen	$33.00	33.00

One Dozen in a Wood Box.

EACH AXE PUT UP IN A SEALED WRAPPER AND LABELED, GIVING WEIGHT OF AXE.

Weight of Each Axe Stamped on the Poll.

AXES.

KEEN KUTTER SINGLE BIT.

All KEEN KUTTER Handled Axes have Handles FASTENED WITH OUR E. C. SIMMONS PATENT WEDGE, which will Positively Prevent the Head from Flying Off the Handle.

Soft Steel Body; Hardened Poll; Highest Grade Crucible Forged Steel Bit, HAND HAMMERED AND HAND WHETTED, EXTRA HARD HAND TEMPERED, NATURAL BLACK FINISH, KEEN KUTTER Trade Mark Design Etched in Deep.

NEW YANKEE (NARROW HEAD) PATTERN, PLAIN.

No. KY306T—With Cumberland Oval Handle No. CA, 30 in. Long.

	3 to 3¼	3½ to 3¾
Weight of Head, lbs.		
Weight per dozen about, lbs.	69	83
Per dozen	$45.00	45.00

One Dozen in a Crate, Heads Enclosed, Handles Projecting, Wrapped in Paper and Burlapped.

No. KY306—WITHOUT HANDLE.

	3 to 3¼	3½ to 3¾
Weight each, lbs.		
Weight per dozen about, lbs.	44	47
Per dozen	$34.50	34.50

One Dozen in a Wood Box.

CONNECTICUT PATTERN, PLAIN.

No. KC/306T—With Cumberland Oval Handle No. CA, 30 in. Long.

Handled with Cumberland Medium Selection Hand Shaved Hickory Handle.

	3 to 3¼	3½ to 3¾
Weight of Head, lbs.		
Weight per dozen about, lbs.	52	55
Per dozen	$44.80	44.80

One Dozen in a Crate, Heads Enclosed, Handles Projecting, Wrapped in Paper and Burlapped.

No. KC/306—WITHOUT HANDLE.

	3 to 3¼	3½ to 3¾
Weight each, lbs.		
Weight per dozen about, lbs.	16	19
Per dozen	$34.50	34.50

One Dozen in a Wood Box.

EACH AXE PUT UP IN A SEALED WRAPPER AND LABELED, GIVING WEIGHT OF AXE.

Weight of Each Axe Stamped on the Poll.

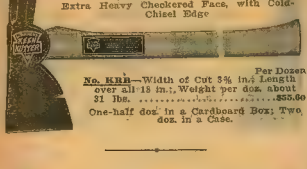
HATCHETS.

KEEN KUTTER®.

Forged from One Piece Highest Grade Tool Steel; Punched Eye; Head and Bit Carefully Tempered; Sharpened Ready for Use; IVORY BLACK FINISH, with KEEN KUTTER Trade Mark Etched and Gold Bronzed Background; POLISHED POLL AND BEVEL OF BIT; Select KEEN KUTTER Grade Hickory Handle, FASTENED WITH OUR E. C. SIMMONS PATENT WEDGE

RIG BUILDERS' OR OIL DERRICK.

Extra Heavy Checkered Face, with Cold-Chisel Edge



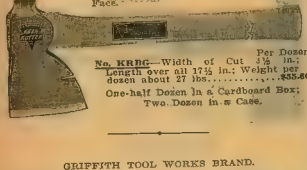
Per Dozen

No. KRB—Width of Cut 3⅝ in.; Length over all 18 in.; Weight per doz. about 31 lbs. $55.00

One-half doz. in a Cardboard Box; Two doz. in a Case.

RIG BUILDERS' OR OIL DERRICK.

Octagon Neck and Round Poll; Checkered Face.



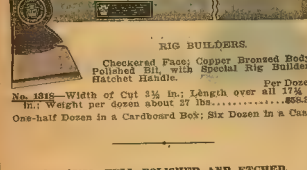
Per Dozen

No. KRBC—Width of Cut 3⅛ in.; Length over all 17½ in.; Weight per dozen about 27 lbs. $55.60

One-half Dozen in a Cardboard Box; Two Dozen in a Case.

GRIFFITH TOOL WORKS BRAND.

Forged from One-piece of Solid Tool Steel; Polished Head; Handle fastened with Wood Wedge.



RIG BUILDERS.

Checkered Face; Copper Bronzed Body; Polished Bit, with Special Rig Builders Hatchet Handle.

Per Dozen

No. 1818—Width of Cut 3¼ in.; Length over all 17½ in.; Weight per dozen about 37 lbs. $55.30

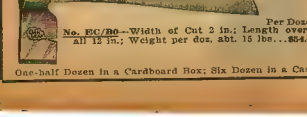
One-half Dozen in a Cardboard Box; Six Dozen in a Case.

OAK LEAF®—FULL POLISHED AND ETCHED.

Special Analysis One Piece Forged Steel; Punched Eye; Extra Tempered Bit; Sharpened Ready for Use; Hardened Poll; Extra Grade White Hickory Handle, FASTENED WITH OUR E. C. SIMMONS PATENT WEDGE.

BOX; CALIFORNIA PATTERN.

Square Head, Checkered Face. 196 Points; Slightly Crowning Face.



Per Dozen

No. EC/BC—Width of Cut 2 in.; Length over all 12 in.; Weight per doz. abt. 15 lbs. ... $54.00

One-half Dozen in a Cardboard Box; Six Dozen in a Case.

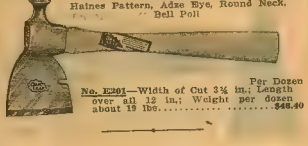
HATCHETS.

OAK LEAF®—FULL POLISHED AND ETCHED.

Special Analysis One Piece Forged Steel; Punched Eye; Extra Tempered Bit; Sharpened Ready for Use; Hardened Poll; Extra Grade White Hickory Handle, FASTENED WITH OUR E. C. SIMMONS PATENT WEDGE.

SHINGLING.

Haines Pattern, Adze Eye, Round Neck, Bell Poll

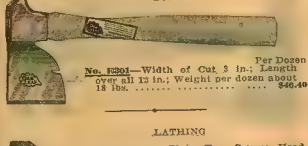


Per Dozen

No. E201—Width of Cut 2¾ in.; Length over all 12 in.; Weight per dozen about 19 lbs. $46.40

HALF.

Haines Pattern, Adze Eye, Round Neck, Bell Poll.

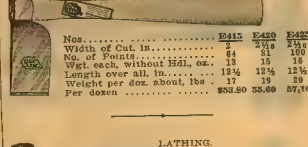


Per Dozen

No. E301—Width of Cut 3 in.; Length over all 12 in.; Weight per dozen about 18 lbs. $46.40

LATHING

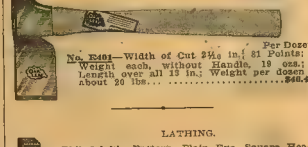
Underhill Pattern, Plain Eye, Square Head, Checkered Face



	E415	E420	E423
Nos.			
Width of Cut, in.	2	2⅛	2⅛
No. of Points	84	91	100
Wgt. each, without Hdl., oz.	13	15	16
Length over all, in.	12¼	12⅛	12⅛
Weight per doz. about, lbs.	17	19	20
Per dozen	$52.80	55.60	57.10

LATHING.

Haines Pattern, Checkered Face, Adze Eye, Round Neck, Bell Poll.

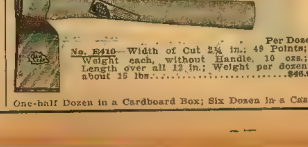


Per Dozen

No. E401—Width of Cut 2⅛ in.; 81 Points; Weight each, without Handle, 19 ozs.; Length over all 13 in.; Weight per dozen about 20 lbs. $46.40

LATHING.

Philadelphia Pattern, Plain Eye, Square Head, Checkered Face.



Per Dozen

No. E410—Width of Cut 2¾ in.; 48 Points; Weight each, without Handle, 10 ozs.; Length over all 12 in.; Weight per dozen about 15 lbs. $46.90

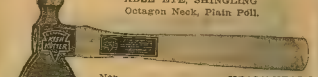
One-half Dozen in a Cardboard Box; Six Dozen in a Case.

HATCHETS.

KEEN KUTTER

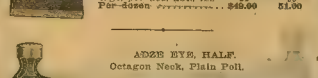
Forged from One Piece Highest Grade Tool Steel, Punched Eye; Head and Bit Carefully Tempered; Sharpened Ready for Use; IVORY BLACK FINISH, with *KEEN KUTTER* Trade Mark Etched and Gold Bronzed Back ground; POLISHED POLL AND BEVEL OF BIT. Select *KEEN KUTTER* Grade Hickory Handle, FASTENED WITH OUR E. C. SIMMONS PATENT WEDGE

ADZE EYE, SHINGLING
Octagon Neck, Plain Poll.



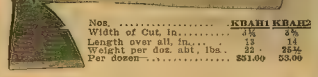
Nos.	KHAS/1	KHAS/2
Width of Cut, in.	2½	4
Length over all, in.	13	14
Wgt. per doz. abt., lbs.	22	25
Per dozen	$49.00	51.00

ADZE EYE, HALF.
Octagon Neck, Plain Poll.



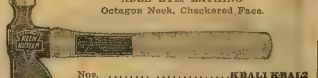
Nos.	KHAH1	KHAH2
Width of Cut, in.	2⅛	2⅜
Length over all, in.	13	14
Weight per doz. abt., lbs.	22	25½
Per dozen	$51.00	53.00

ADZE EYE, LATHING
Octagon Neck, Checkered Face.



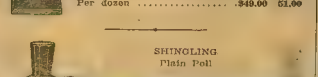
Nos.	KHAL1	KHAL2
Width of Cut, in.	2¼	2½
Length over all, in.	13	13
Weight per doz. about, lbs.	18	22
Per dozen	$49.00	51.00

SHINGLING
Plain Poll



Nos.	KHS/1	KHS/2
Width of Cut, in.	3½	4
Length over all, in.	13	14
Weight per doz. about, lbs.	22	25
Per dozen	$38.50	41.80

CLAW.
Plain Poll



Nos.	KHC/1	KHC/2	KHC/3
Width of Cut, in.	3½	4	4½
Length over all, in.	13	14	14½
Wgt. doz. abt., lbs.	23	28	30
Per dozen	$44.40	46.40	49.00

One half doz. in a Cardboard Box; Two doz. in a Case

HATCHETS.

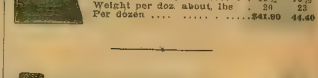
KEEN KUTTER

Forged from One Piece Highest Grade Tool Steel; Punched Eye; Head and Bit Carefully Tempered; Sharpened Ready for Use; IVORY BLACK FINISH, with *KEEN KUTTER* Trade Mark Etched and Gold Bronzed Back ground, POLISHED POLL AND BEVEL OF BIT. Select *KEEN KUTTER* Grade Hickory Handle, FASTENED WITH OUR E. C. SIMMONS PATENT WEDGE.

HALF.
Plain Poll.

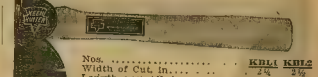
Nos.	KBH1	KBH2
Width of Cut, in.	2⅛	2⅜
Length over all, in.	12½	13½
Weight per doz about, lbs	20	22
Per dozen	$41.00	44.40

LATHING
Checkered Face.



Nos.	KBL1	KBL2
Width of Cut, in.	2¼	2½
Length over all, in.	12	13
Weight per doz about, lbs	18	22
Per dozen	$38.50	41.80

BROAD OR BENCH.
Single Bevel.

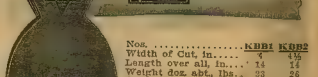


Nos.	KBB1	KBB2
Width of Cut, in.	2	2½
Length over all, in.	14	14
Weight doz. abt., lbs.	23	26
Per dozen	$51.00	56.00

Nos.	KBB3	KBB4
Width of Cut, inches	3	3½
Length over all, inches	14½	15¾
Weight per dozen about, lbs	30	35
Per dozen	$62.20	70.00

One half doz in a Cardboard Box; Two doz. in a Case

FLOORING.
Single Bevel, with Nail Slot.



Nos.	KBF1	KBF2
Width of Cut, in.	2	2⅜
Length over all, in.	14½	14½
Wgt doz. about lbs.	24	27
Per dozen	$58.00	63.20

One-half Dozen in a Cardboard Box; Three Dozen in a Case

BICYCLE WRENCHES.

*KEEN KUTTER**

Forged from Tool Steel; Case-hardened Jaws; Length, Closed, 4 in., Jaws Open 1⅝ in.; Front Jaws and Bar One Piece, Fitting into Hollow Handle.

Per Dozen
No. K93—*KEEN KUTTER**; NICKEL PLATED AND POLISHED.$12.50

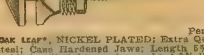
Per Dozen
No. K94—*KEEN KUTTER**, BLACK FINISH..$11.00

One Dozen in a Cardboard Box; Weight per Dozen about 4¼ lbs.

*OAK LEAF**

Per Dozen
No. E5½—OAK LEAF*, NICKEL PLATED; Extra Quality Forged Steel; Case Hardened Jaws; Length 5⅝ in.; Jaws Open 1⅝ in., Weight per dozen about 3¾ lbs.$9.00

*BAY STATE**.

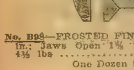


Per Dozen
No. B96—FROSTED FINISH, Forged Steel; Length 5½ in.; Jaws Open 1⅝ in., Weight per dozen about 4½ lbs.....$8.50

One Dozen in a Cardboard Box

WRENCHES.

*KEEN KUTTER**; ADJUSTABLE ALLIGATOR.



Handle and Jaws Drop Forged from Highest Grade Tool Steel; Jaws Hardened; Plain Jaw and Handle in One Piece; Adjustable Toothed Jaw, regulated by Knurled Adjusting Screw in Frame, which can be replaced in case of wear or breakage; Malleable Iron Frame; All Parts Held by Steel Screws; Nickel Plated Throughout, with Polished Frame and Jaws.

Per Dozen
No. KAT—*KEEN KUTTER**; 7 IN. LONG; Holds Pipe up to ⅜ in. and Nuts up to 1¼ in.; Weight per dozen about 9 lbs.....$34.20

One-twelfth Dozen in a Cardboard Box.

No. KAJ—Extra Jaws for No. KAT Wrench; Weight per dozen about 1 lb.....$11.30

Packed Loose.

KEEN KUTTER SURE GRIP**.

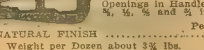
Forged from Special Tool Steel; Oil Tempered; Milled Teeth.

LENGTH 5¼ IN.; Holds Pipe ⅜ in. and Smaller; Openings in Handle for ¼, ⅜, ½, ⅝ and ¾ in Nuts

Per Dozen
No. K20—NATURAL FINISH.....$3.50

Weight per Dozen about 3¾ lbs.
One Dozen in a Cardboard Box.

and Forged Finish; Milled Teeth.



Per Dozen
No. K40—LENGTH 5½ in., Holds Pipe ⅜ in. and Smaller; Openings in Handle for ¼, ⅜, ½, ⅝ and ¾ in Nuts; Weight per dozen about 4 lbs.....$5.70

One Dozen in a Cardboard Box.

No. K50—LENGTH 7 IN.; Holds Pipe ⅜ to ¾ in.; Openings in Handle for ⅜, ½, ⅝, ¾ and ⅞ in. Nuts. Weight per dozen about 9 lbs.....9.80

One-half Dozen in a Cardboard Box.

WRENCHES.

*KEEN KUTTER SURE GRIP**.

Natural Finish; Raised Surface; Polished.

Per Dozen
No. K80—LENGTH 9 IN.; Holds Pipe ⅝ to ¾ in.; Weight per dozen about 18 lbs.....$11.30

Per Dozen
No. K80—LENGTH 10 IN.; NATURAL FINISH; Raised Surface Polished; Holds Pipe ⅝ in. and smaller; Weight per dozen about 15 lbs.....$15.50

OAK LEAF*, DUCK BILL.

Forged from Extra Quality Tool Steel, Oil Tempered; Natural Finish Knurled Body; Raised Surface of Jaws and Edges Polished; Milled Teeth on One Jaw of each End.

Per Dozen
No. E6J—LENGTH 5 IN.; Holds Nuts or Pipe ⅜ to ⅝ in.; Weight per dozen about 6 lbs.....$7.00

No. E8S—LENGTH 7 IN; Holds Nuts or Pipe ¼ to 1¼ in.; Weight per dozen about 12 lbs.....9.50

One-half Dozen in a Cardboard Box.

*BAY STATE**

Forged from Tool Steel, Tempered; Natural Finish, Polished Jaws; Milled Teeth.

Per Dozen
No. BH—LENGTH 6⅛ IN.; Holds Pipe ⅜ in. and Smaller, Openings in Handle for ⅜, ½ and ⅝ in. Nuts; Weight per dozen about 3½ lbs.....$3.10

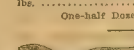
One Dozen in a Cardboard Box.

Forged from Tool Steel; Combination Nut and Pipe Wrench and Thread Cutter; Tempered and Hardened Jaws and Thread Cutters; Milled Teeth on One Jaw

on each End, Holds Nut or Pipe ⅜ to 1 in.; Holds Round Iron from ⅜ to 1⅛ in.; Thread Cutters will Cut ⅛x11, ¼x16, ⅜x18 Threads.

Per Dozen
No. H—HAWKEYE PATTERN; GUN METAL FINISH; Length over all 8 in.; Weight per Dozen about 12 lbs.....$12.50

One-half Dozen in a Cardboard Box.



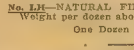
Stamped from 9 Gauge Steel; Combination Nut and Pipe Wrench and Thread Cutter; Hardened Jaws and Thread Cutters; Milled Teeth

on One Jaw on each End, Holds Nuts or Pipe ⅜ to 1 in.; Thread Cutters will Cut ⅛x16, ¼x18 and ⅜x18 Threads.

Per Dozen
No. LH—NATURAL FINISH; Length over all 8 in.; Weight per dozen about 6 lbs.....$5.60

One Dozen in a Cardboard Box.

ADJUSTABLE "S".



Wescott Pattern, Polished and Hardened Cast Steel Jaws; Japanned Finish Handle; Knurled Adjusting Screw; Sliding Jaw works on Grooved Surface in Hollow Part of Handle.

Nos.	M76	M78	VP76	VP12
Length, inches	6	8	10	12
Extreme Width of Openings, in.	⅝	1	1⅜	1⅝
Weight per dozen about lbs.	11	18	22	27
Per dozen	$17.00	22.50	27.30	40.50

One-half Dozen in a Cardboard Box

PIPE WRENCHES.

BEMIS & CALL'S COMBINATION.

Forged from Tool Steel; Polished Shank, Nut and Hardened Jaws; Extra Steel Grip, with Teeth on one end of Jaw for Pipe; Shank extends through Ferrule and Handle and screwed to Cap at end; Polished Ferrule and Cap; Polished Hardwood Handle.

Bright, with Long Nut.

Nos.	4512	4515
Inches	12	15
Adjustable to Pipe, in	⅝ to 1¼	⅞ to 2¼
Weight dozen about, lbs	38	64
Per dozen	$77.10	102.60

One-half Dozen in a Wood Box.

Extra Dogs for B. & C. Combination Wrenches.

NEW STYLE, WITH PIN.

Nos.	ND12	ND18
Inches	12	18
Weight each about, lbs	⅛	⅛
Each	$0.52	.62

Packed Loose.

WRENCHES.

KEEN KUTTER®; SOLID HANDLE, BLACK.

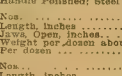
Forged from Extra Quality Tool Steel Hardened Jaws, SHANK EXTENDS THROUGH END OF HANDLE, Varnished Beechwood Grips riveted to Handle with Two Heavy Iron Rivets; Metal Parts of Handle Polished; Steel Adjusting Screw

Nos.	KB6	KB8	KB10	KB12
Length, Inches	6	8	10	12
Jaws, Open, Inches	1	1⅜	1⅝	2¼
Weight per dozen about, lbs	8	19	37	59
Per dozen	$27.90	35.90	46.80	53.10

Nos.	KB15	KB18	KB21
Length, Inches	15	18	21
Jaws, Open, Inches	2½	3⅛	3⅞
Weight per dozen about, lbs	57	76	102
Per dozen	$70.90	89.80	108.00

Nos. KB6 to KB12, One-half Dozen; KB15 and KB18, One-third Dozen; KB21, One-twelfth Dozen in a Package.

KEEN KUTTER®; STEEL HANDLE, BLACK.



Forged from Extra Quality Tool Steel; Hardened Jaws; Shank, Handle and Outside Jaw Drop-forged from One Piece of Steel; Steel Adjusting Screw

Nos.	KSH6	KSH8	KSH10	KSH12
Length, inches	6	8	10	12
Jaws, Open, inches	1⅜	1⅝	2¼	2¾
Wgt per doz. abt., lbs	10½	19½	32	50
Per dozen	$27.50	33.70	41.60	53.10

Nos.	KSH15	KSH21
Length, inches	15	21
Jaws, Open, inches	2⅝	3⅞
Weight per dozen about, lbs	76	150
Per dozen	$70.00	108.00

Nos. KSH6 to KSH12, One-half Dozen, KSH15, One-third Dozen, KSH21, One-twelfth Dozen in a Package.

KEEN KUTTER®; FIELD.

Forged from Extra Quality Tool Steel; Hardened Jaws; Shank, Handle and Outside Jaw Drop-forged from One Piece of Steel; Steel Adjusting Screw; Hole in End of Handle for Hanging the Wrench up.

Nos.	KF8	KF10
Length, inches	8	10
Jaws Open, inches	1⅝	1⅞
Weight per Dozen about, lbs	19½	32
Per dozen	$34.00	41.60

One-half Dozen in a Package.

WRENCHES.

OAK LEAF®, KNIFE HANDLE, BLACK.

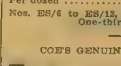
Special Quality Forged Steel Stationary Jaw and Bar; Malleable Iron Sliding Jaw; Both Jaws Hardened; Steel Adjusting Screw; Polished Steel Handle Frame, with Varnished Hardwood Grips fastened by two Heavy Iron Rivets.

Nos.	ES/6	ES/8	ES/10	ES/12
Length, inches	6	8	10	12
Jaws Open, inches	1	1¼	1⅝	2¼
Weight per dozen about, lbs.	9	13	25	38
Per dozen	$26.00	32.00	38.80	49.80

Nos.	ES/15	ES/18
Length, inches	15	18
Jaws Open, inches	2⅝	3⅛
Weight per dozen about, lbs	57	76
Per dozen	$67.40	85.20

Nos. ES/6 to ES/12, One-half Dozen; ES/15 and ES/18, One-third Dozen in a Package.

COES GENUINE; KNIFE HANDLE, BLACK.

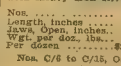


Forged from Tool Steel; Cams Hardened Jaws; Shank extends through to end of Handle; Polished Malleable Iron Ferrules; Varnished Hardwood Grips riveted to Handle with Heavy Iron Rivet; Steel Adjusting Screw.

Nos.	C/6	C/8	C/10	C/12	C/15	C/18	C/21
Length, inches	6	8	10	12	15	18	21
Jaws, Open, inches	1	1⅜	2¼	2¾	2⅝	3¼	4⅛
Wgt. per doz. abt. lbs	5	13	25	37	57	78	108
Per dozen	$25.50	30.60	37.80	47.80	66.30	80.10	100.60

Nos. C/6 to C/15, One-half Dozen; Nos. C/18 to C/21, One-third Dozen in a Package.

AGRICULTURAL.



Wrought Iron; Case Hardened Jaws; Shank extends through to end of Handle, Screwed to Cap at end; Polished Malleable Iron Ferrules; Plain Hardwood Grip; Wrought Iron Adjusting Screw

Nos.	8/6	8/8	8/10	8/12	8/15
Length, Inches	6	8	10	12	15
Jaws, Open, Inches	1⅛	1¼	1⅝	2⅛	2¾
Weight per doz. about, lbs	11	17	27	39	61
Per dozen	$10.00	12.00	14.00	15.00	24.00
	12.40	14.80	17.30	27.30	36.80

One-half Dozen in a Package.

Table of Weights and Contents of Cases.

Length, Inches	6	8	10	12	18	18	21
Dozen in a Case	6	6	6	6	3	4	4
Wgt. per Case abt., lbs.	85	110	182	256	190	170	130

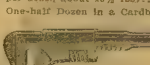
AUTOMOBILE WRENCHES.

OAK LEAF®.

Per Dozen

No. E2—OAK LEAF®; PLAIN FINISH; Forged Steel, Case Hardened Jaws; Length 9¼ in.; Jaws Open 2⅛ in.; Weight per dozen about 13½ lbs. $10.70

One-half Dozen in a Cardboard Box.



Forged from Tool Steel; Hardened Jaws; Open 2¼ in.; Steel Adjusting Screw; Length over all 11 in.; Natural Finish.

Per Dozen

No. 113—Weight per dozen about 24 lbs. $18.80

Packed Loose.

KOEHRING

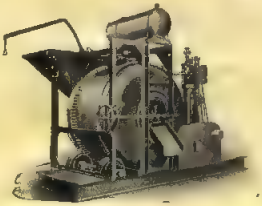
The Heavy Duty Mixer

Built in a factory where rigid standards of highest quality construction have made it the largest concrete mixer manufactory in the world.

Koehring Mixers are built as well as humanly possible,—built to stand up, season after season, to top speed operation.

And Koehring-mixed concrete, because of the patented drum construction, is Dominant Strength concrete, proved by official tests to be stronger than concrete mixed by other machines.

CONSTRUCTION MIXERS—capacities of 7, 10, 14, 21 and 28 cu. ft. mixed concrete. Gasoline, steam and electric power. Write for catalog.



Koehring Dandie Light Mixer

Koehring-built, it is a light mixer of real dependability at a price you can afford to pay. Equipped with low charging platform, power charging skip, batch hopper, automatic water measuring tank and light duty hoist.

Write for Dandie Catalog

Koehring Dependable Paving Mixer

The heavy duty, extra yardage paver, with automatic features, the fastest paving unit. Boom and bucket or spout delivery. Capacities of 10, 14, 21 and 28 cu. ft mixed concrete.

Koehring Rotary Grader

Koehring Hot Mixer — **Koehring Bar Bender**

Koehring Steam Water Pump — **Koehring Bar Cutter**

THE KOEHRING COMPANY

Milwaukee, Wisconsin

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THREE prime factors determine whether or not your construction equipment represents a profitable investment: — 1st — Performance; 2nd — Endurance; 3rd — Service.

Smith Equipment holds all records for speed in production and for endurance. Your investment is further safeguarded by an efficient service organization — representatives in all principal cities— equipped to *keep* Smith Equipment ***producing.***

It is essential that you know about

SMITH TILTING MIXERS
Sizes 10-S, 14-S, 21-S, 28-S and 56-3 Mixed Batch Capacities

SMITH NON-TILTING MIXERS
4-S, 7-S, 14-S, 21-S and 28-S Mixed Batch Capacities

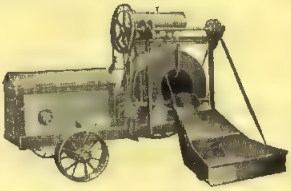
SMITH PAVING MIXERS
10-E, 14-E and 21-E Mixed Batch Capacities

SMITH EXCAVATOR & LOADER

SMITH PUMPING OUTFITS

SMITH GLASS BATCH MIXERS

ENGINES, BOILERS, CONSTRUCTION EQUIPMENT



Smith 7-S Non-Tilting Mixer

Smith 21-E Paving Mixer

Write for Catalogs and Performance Records

Smith Equipment is in service all over the world. Twenty years of Export Experience and unequalled Export facilities assure the most pleasing foreign transactions in every detail.

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The T. L. Smith Company

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STANDARDIZE ON SMITH EQUIPMENT

PYREX TRANSPARENT OVEN DISHES.

FOR EVERY DAY SERVICE.

Saves Food and Fuel by Baking Better, Browner and Quicker.

CASSEROLES.

ROUND.

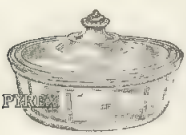
NO.	100	101	102	103	104
Size in outside	9x3¼	9x3¼	8¼x2⅞	7¼x2¼	6¼x2¼
Capacity Qt.	2½	2	1½	1	½
List each	$3 00	2 50	2 00	1 75	1 25
Net each	$4.20	3.50	2.80	2.44	1.74

PACKED ONE IN CARTON

ROUND, SHALLOW.

NO. 112—Capacity 1 qt., size outside 7⅞x2½ in.,	List each $1.75	Net each $2.44

PACKED ONE IN CARTON.



ROUND.
Fit Standard Mountings.

NO.	167	168
Capacity Qt.	1	1½
Size in outside	7¼x2⅝	8¼x2½
List each	$1 75	2 00
Net each	$2.44	2.80

PACKED ONE IN CARTON

ROUND, INDIVIDUAL.

NO. 184—Capacity 8 oz., size outside 4¼x2 in.,	List each $0.75	Net each $1.04

PACKED ONE IN CARTON.

CASSEROLES.

OVAL.
Fit Standard Mountings.

NO.	193	194	197
Capacity qt.	1	2	1½
Size in outside	8⅜x6½x2½	9½x7x3⅜	8⅜x6½x3⅜
List each	$1 75	2.50	2.00
Net each	$2.44	3.50	2.80

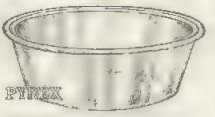
PACKED ONE IN CARTON

OVAL, SHALLOW.
BEEFSTEAK.
Fit Standard Mountings.

NO	183	184
Capacity qt.	1	1½
Size in outside	9x6½x2⅞	10⅜x7⅝x2⅜
List each	$1.75	2.00
Net each	$2.44	2.80

PACKED ONE IN CARTON.

UNCOVERED BAKING DISHES.



ROUND.

NO	464	465	466
Capacity qt	1	1½	2
Size in. outside	7¼x2½	8¼x2⅝	9¼x3
List each	$1.00	1.25	1.50
Net each	$1.40	1.74	2.10

PACKED ONE IN CARTON.

PUDDING OR BAKING DISHES.

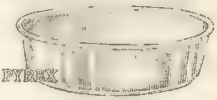
ROUND.

NO.	120	121	122	123	124
Capacity qt.	2½	2	1½	1	½
Size in outside	9¼x3¼	9x3¼	8¼x2⅞	7¼x2¼	6¼x2¼
List each	$1.75	1.50	1.25	1.00	0.75
Net each	$2.44	2.10	1.74	1.40	1.04

PACKED ONE IN CARTON

"Pagoma" goods are all guaranteed

PUDDING OR BAKING DISHES.

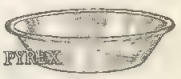


ROUND, SHALLOW.

NO.	132	155
Capacity qt	1	1½
Size in outside	7¼x2½	8¼x2½
List each	$1 00	1 25
Net each	$1 40	1.74

PACKED ONE IN CARTON.

BAKING DISHES.



OVAL.

NO.	400	401	402	403
Capacity oz	9	10	12¾	18¼
Size in outside	6¼x4¼x1⅝	6⅝x4⅝x1½	7¼x5⅛x1⅝	8¼x6x1⅝
List each	$0.50	0.65	0.65	0.75
Net each	$0.70	0.76	0.90	1.04

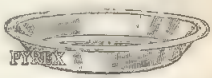
PACKED SIX IN CARTON

ROUND, SMALL—COCOTTES.

NO.	452	453	455
Capacity oz.	6	8	12
Size in. outside	4¼x1¾	4¼x1⅝	4¼x1⅞
List each	$0.30	0.40	0.50
Net each	$0.42	0.56	0.70

PACKED SIX IN CARTON

PIE PLATES.



ROUND.
Wide Rim.

NO. 201—Size outside 9⅛x1½ in., wide rim	List each $10.80	Net each $1.40

PACKED THREE IN CARTON

ROUND.

NO.	202	203
Size in. outside	8⅝x1⅜	9⅛x1½
List each	$0.90	1 00
Net each	$1.26	1.40

PACKED THREE IN CARTON

SIX SIDED.

NO. 1203 Size outside 9⅛x1¼ in	List each $1.35	Net each $1.74

PACKED THREE IN CARTON

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE

GAS HEADLIGHTS.

FORD SIZE WITH BRACKETS.

Net Per Pair

NO. 400F—Black and nickel finish, with brackets. Bracket with which this lamp is fitted will take the place of the one with which all **FORD** cars since 1915 are equipped, thereby making a double instead of a single prop lamp support. This is a high-grade gas headlight fitted with genuine mangin mirror; diameter of door, 9 inches; distance between props, 7 inches, diameter of mirror, 6 inches $14.42

Weight 13 lbs.

GAS SEARCHLIGHTS.

FOR TRUCKS.

A Searchlight of large proportions, made for large, high grade trucks, and useful for trucks working at night in unlighted yards or along dark untraveled roads. Body of one-piece steel with parts well rivited, then coated inside and out with two coats of baked-on black enamel. Mirror is 6 inches in diameter, secured with the Victor mounting Bracket is the swivel type, permitting the lamp to be thrown in any desired direction. Reflector is the Bezel type, attached to the door Outside diameter of door, 10 in.; inside diameter of door, 7⅞ inches; diameter of glass, 8⅛ inches; extreme depth, including the handle, 9⅜ inches; extreme height, 18⅜ in.; diameter of mirror, 6 inches; size of burner, ⅝ foot.

Net Each

NO. 141 –All Black Finish..... $18.60

Weight 10¾ lbs.

HEAD LAMP BRACKETS.

FOR FORD CARS.

Net Per Pair

NO. 441—For all **FORD** cars since 1915 when it is desired to use a double instead of a single prop lamp They are made especially to fit the **FORD** car and are the same shape as supplied on the **FORD** models prior to 1915. Black japanned finish $3.00

Weight 3½ lbs. per pair.

OIL SIDE LAMPS.

Net Per Pair

NO. 440—All black. This is a high-grade oil Side Lamp designed especially for 1915 to 1919 models of **FORD** cars. It is provided with bolt and nut for attaching to **FORD** bracket..... $6.20

Weight 2 lbs.

OIL TAIL LAMPS.

Net Each

NO. 442—All black finish. A cheaper grade of tail lamp gotten out for the purpose of competing as nearly as possible with some of the cheap lamps now being offered in various parts of the country. This lamp is O. K. and serviceable, but is not so well built or finished as our No. 441. It is, however, far superior to anything else on the market selling at anywhere near the price. Diameter of door, 4 inches; extreme height, 9¼ inches $3.24

Weight 2½ lbs.

THIS LAMP IS ALSO SUITABLE FOR TRUCK USE.

Net Each

NO. 441—All black finish. This lamp is designed for use on 1915 to 1920 **FORD** cars and is made to match as nearly as possible the lamps with which this particular model of car is originally equipped. Diameter of door, 4¾ in.; extreme height, 9¼ in..... $3.32

Weight 2¼ lbs

OIL FOUNTS AND BURNERS.

FOR FORD CARS.

This is an oil fount made especially for the purpose of replacement in **FORD** Oil Side or Tail Lamps

It will fit any of the lamps with which **FORD** Cars are now coming regularly equipped. In fact, everything since 1915 model.

Net Each

NO. 6539X—Complete with burner..... $1.14

Weight ¾ lb

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE

COMBINATION ELECTRIC TAIL LAMP AND LICENSE PAD HOLDER.

Net Each

NO. 364—All black. Diameter of ruby semaphore, 3½ inches; extreme length, 10¼ inches, extreme height, 6¼ inches $1.82

Weight 1 lb

DOME LAMPS.

FOR LIMOUSINES AND CLOSED CARS.

Invaluable for lighting rear compartment of Limousines and Sedans.

Net Each

NO. 60MF Diameter of glass, 2½ inches; size in most demand; Ediswan base, less bulb $2.60

Weight ½ lb.

Net Each

NO. 608—Furnished with a 3-inch cut star flat lens $3.80

LAMP CORD.

GREEN DROP CORD.

The following lamp cord is used in garages for miscellaneous work.

NO. 106 Double twisted, green and yellow drop cord

See Index for Page and Price

"NEW CODE."

NO. 18NC—Double twisted green, approved by Fire Underwriters as standard for drop lamp use.

See Index for Page and Price

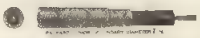
REINFORCED DROP CORD.

This cord is the same as No. 106, only covered on the outside with heavy black woven braider, insulated with rubber.

NO. 126—Reinforced, black, $^{2}/_{64}$ in. diameter, oil proof

See Index for Page and Price

LIGHTING CABLE.



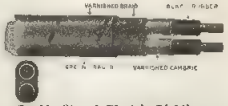
Single Strand Electric Lighting.

This is the very best cable to be had for electric lighting. It is strong and durable and well insulated. Recommended for tail lamps. Brown in color with double red striping.

Net Per Foot

NO. 4—Superior, 5 MM, ¾ in. diameter

See Index for Page and Price



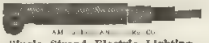
Double Strand Electric Lighting.

Same as No. 4, only the cable is double. Recommended for tail lamps. Round in form and brown in color with double red stripings.

Net Per Foot

NO. 8—Superior, 11 MM, $^{28}/_{64}$ in. diameter.

See Index for Page and Price.



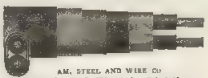
Single Strand Electric Lighting.

Same quality of goods as No. 4 but heavier. Recommended for head lamps and side lamps. Brown in color with double red striping.

Net Per Foot

NO. 5—Superior, 6 MM, $^{16}/_{64}$ in. diameter.

See Index for Page and Price.



Double Strand Electric Lighting.

Same as No. 5 only the cable is two way. Recommended for wiring head lamps and side lamps. Round in form and brown in color, with double red striping.

Net Per Foot

NO. 10—Superior, 11 MM, $^{27}/_{64}$ in. diameter.

See Index for Page and Price.

ARMORED LIGHTING CABLE.

Single Strand Electric Lighting. ARMORED.

Same as No. 5 only that instead of having a fabric covering it is provided with a coat of galvanized armor, which will not wear through and short the wire on account of coming into contact and rubbing on the frame or other metal work on the car.

Net Per Foot

NO. 40 Superior, 8 MM, $^{16}/_{64}$ in. diameter.

See Index for Page and Price.

Two-Way.

Net Per Foot

NO. 80—Superior, 7 MM, $^{21}/_{64}$ in. diameter.

See Index for Page and Price.

"PAGOMA"—a safeguard for Quality.

GAS HEADLIGHTS.

These are massive Gas Headlights, to be used on high grade cars or trucks where a strong light, and a well made lamp is required. The body is drawn from one piece of heavy gauge steel with parts solidly riveted, then given three coats of baked enamel. Mirror is 6 inches in diameter with Victor mounting. Reflector is the bezel type attached to the door.

Outside diameter of door, 10 in.; inside diameter of door, 7½ inches; diameter of glass, 8½ inches; distance between props, 8½ inches, diameter of prop hole, ½ inch; extreme depth, 6⅞ inches, diameter of mirror, 6 inches.

Net Per Pair

NO. 403—All Black Finish. $17.00

Weight 13¾ lbs.

FOR FORD CARS.

This Gas Lamp, while originally designed for **FORD** Cars and used upon them prior to 1915, is the equal in workmanship and quality of material used, of any other model in the line. The chief difference is in the body shell, which is drawn down smaller in diameter. The body is drawn from one piece of heavy gauge steel with all parts solidly riveted. It is finished with three coats of baked enamel. Mirror is 6 inches in diameter, Victor type of mounting. Outside diameter of door, 9¼ inches, inside diameter of door, 7¼ inches; diameter of glass, 5⅝ in.; distance between props, 7 inches; diameter of prop hole, ½ inch; ⅝ in. extreme depth, 7⅞ inches; diameter of mirror, 6 inches.

Net Per Pair

NO. 400—All Black Finish..... $12.20

Weight 12 lbs.

See Index for prices and descriptions on complete line of Lighting, Starting and Ignition Wires.

JACKSON ROTARY AIR COMPRESSORS

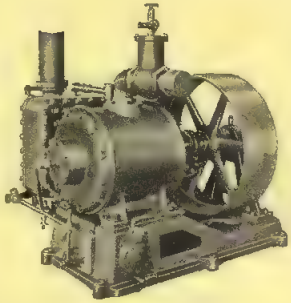
For All Purposes

Mining

The Jackson Rotary weighs only half as much and occupies only one-fourth as much space as piston compressors of equal capacity. It is especially adapted to easy transportation through narrow passages, to rapid set up or get-away, inexpensive foundations, and to conservation of space.

Industrial Uses

Made in variety of sizes to fit every industrial purpose and surpassing in efficiency all piston machines for either air compression or vacuum pumping. With our type 180-A compressor, for instance, we can maintain a vacuum within three-tenths inch of absolute vacuum, and to the engineer this is evidence of high volumetric efficiency, which we claim.



Garages

Filling stations and auto service stations, supplying air for tires, or spray air in the shop, will find in our catalog a compressor of size to fit their needs. All Jackson Rotary Air Compressors for garage, industrial and mining use are water cooled and may be run continuously without over-heating.

Dentists—Doctors

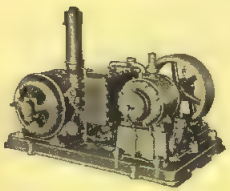
The size range of the Jackson Compressor line includes diminutive nickel finished compressors for doctors and dentists. They are unexcelled in efficiency for operating dental tools, stomach pumps, etc., for suitably heating and vaporizing ether, and for a variety of uses for which the physician now requires some two or three distinct machines.

For More Detailed Description See Following Page

Positive Displacement
Water-Cooled
No Reciprocating Parts
No Vibration
Long Life

Light Foundations
Quiet in Operation
Well Balanced
Even Torque
No Belt Slippage
No Valve Trouble

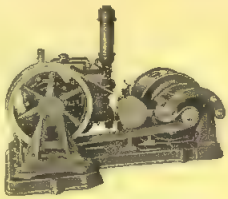
All Roller Bearings
Automatically Oiled
No Re-expansion of Air
High Over-All Efficiency
Motor-Driven Compressors



Motor Driven Compressors

Two views, one each side, of the same 5-foot Jackson Rotary Air Compressor and Motor, mounted on a cast iron base, and driven by means of a short belt and idler pulley.

Our compressors of all sizes are equipped with discharge unloader, line check valve, automatic intake unloader and automatic motor control, if desired.



Autos and Trucks

Our smallest compressors fit on individual pleasure cars or trucks, connecting either with the generator or fan pulley. They function perfectly—are free of the ills that attend piston air pumps.

Write For Booklet

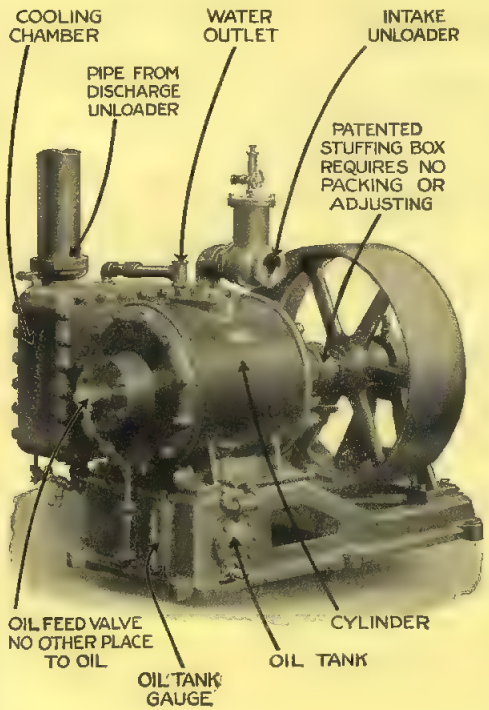
Write for our booklet "Rotary Motion," which thoroly explains the mechanism of this compressor and proves to you that it costs less than half as much to operate as any piston compressor of equal capacity.

The Jackson Compressor Co.

237 So. Cherokee St., Denver, Colorado

Jackson ROTARY Jackson AIR COMPRESSORS

Positive Displacement Rotary air compressors, built for all purposes, and possessing eight salient superiorities over piston compressors (1) No reciprocating parts; (2) well balanced, even torque; (3) all roller bearings, high duty; (4) re-expansion of air impossible; (5) no valve trouble; (6) half the weight; (7) one fourth the floor space, and (8) half the operating cost of piston compressors of equal capacity.



No Reciprocation

Shaft of the drive wheel is also the shaft of the compressing member which rotates in the cylinder. There are no reciprocating parts. Displacement is as positive as that of a piston, yet continuous.

No Vibration

Four compression impulses per revolution, with intake, compression and discharge continuous, gives great balance, an even torque and particularly eliminates vibration.

Roller Bearings

Only five moving parts, always running in oil, and all bearings "high duty" roller.

No Re-Expansion

Re-expansion of air is impossible because the compression chamber is discharged to zero. The volumetric efficiency of this compressor is, under average conditions 90% to 95%. As an evidence—our 180 foot compressor can maintain a vacuum of within three-tenths inch of absolute vacuum.

No Valve Troubles

Compression is not dependent on valves. No valves on intake. Valves on exhaust serve only to reduce the horsepower consumed.

Half the Weight

Elimination of pistons, crank shaft and connecting rod save half the weight. Lighter foundations may be used. Easily portable. The same air as a piston compressor will occupy four times the floor space of this Rotary.

Half the Cost

We are prepared to prove that the Jackson Rotary can be operated at half the cost of any piston compressor delivering the same volume of compressed air.

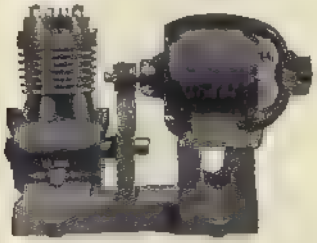
Write for our booklet, "Rotary Motor" and catalog. See also preceding page.

THE JACKSON COMPRESSOR CO.

237 SO. CHEROKEE ST., DENVER, COLO.

BRUNNER MOTOR-DRIVEN AIR COMPRESSORS

No. 42, DOUBLE-CYLINDER VERTICAL AIR COMPRESSORS



Capacity of 2½ cubic feet free air per minute, has adjustable safety valve on each cylinder, driven by a ½-h.p motor.

A convenient installation when used in connection with a Model M automatic controller. Operation from lighting circuit if desirable

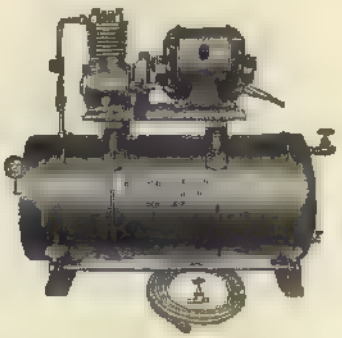
Price, with 110 220-v., 60-cy A.C., 1-phase Motor .. each	190.00
Price, with 110 or 220-v. Direct Current Motor ... . each	185 00
Price, with 32-v. Direct Current Motor ..... each	190.00
Price, with 110–220-v., 25-cy A.C., 1-phase Motor .. each	205.00

MOTOR-DRIVEN GARAGE OUTFIT, No. 6

For garages housing 75 cars, when Model M controller is used; without controller, up to 50 cars.

1 No 42 Motor-driven Compressor, 110 or 220-v., 60-cy A C	190 00
1 40-gal , 16x48-in Galvanized Air Tank	40 00
1 Model B Air Gauge	3 70
1 No 70 Hart Check Valve.	5 00
1— " 72 Safety Valve	3.00
1— " 83¼-inch Needle Valve	2.25
1— " 83⅜ " " "	2.25
1— " 82⅜ " " " with Swivel Hose Connection.	2.50
2 Specially Ground Brass Unions, ¼ and ⅜-inch ...	1.70
1—Automatic Tire Connection.	1.70
1—25-ft. Drop Line ⅜-inch Resist-oil Air Hose	5.50
	257 60
1—Model M Controller to Make Outfit Automatic (Optional) .	35.00
	292 60

No. 542 MOTOR-DRIVEN OUTFITS



Outfit consists of a standard No. 102 Brunner Air Compressor with capacity of 2½ cubic feet of free air per minute, geared by means of a cloth pinion gear and a cut cast iron spur gear to a ½-h.p. motor, bolted to a substantial iron base and mounted on a 32-gallon welded open-hearth flange steel tank (tested to 300 pounds) by means of heavy cast iron saddles held in place by ⅜-inch round strap bolts. It is of especially rigid construction. This motor will readily start the compressor against 130 pounds without overloading

Equipment includes air gauge, check valve, needle valves, hose line and tire connection, and when uncrated it is only necessary to wire the motor and connect pipe or hose line to the outlet valve

Recommended for garages housing up to 50 cars, or in gasoline stations where available space is limited.

Guaranteed for 150 pounds working air pressure. Height, 34 inches. Floor space, 18x36 inches. Net weight, 310 pounds. Weight crated, 410 pounds

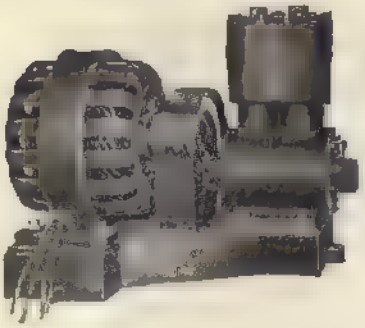
Price, with 110 or 220-v. Direct Current ....each	270 00
Price, with 1-phase, 60-cycle, 110 or 220-v. A.C. Motor . each	265.00
Price, with 32-v. Direct Current Motor .. ... each	270.00
Price, with 1-phase, 25-cycle 110 or 220-v A. C Motor ...each	285.00
Price, Model M Controller, Optional.. .... . . .each	35.00

Write us Your Requirements for Goods Not Listed.

For Nearly a Century the Stove of Service.

BRUNNER MOTOR-DRIVEN AIR COMPRESSORS

No. 47, TWO-CYLINDER WATER-COOLED



Designed to meet the demand of very large automobile garages, for operating paint sprayers, small pneumatic tools, etc., and general shop use.

This is the No. 47 vertical two-cylinder water-cooled compressor mounted on a heavy cast-iron sub-base especially designed to insure absolute rigidity when operating against high pressures.

Compressor is driven by a noiseless cloth pinion and heavy rimmed cast-iron spur gear to reduce vibration in going over compression center.

Guaranteed pressure with standard motor, 200 pounds.

Driven by 2 horsepower motor and has capacity of 7 cubic feet of free air per minute.

Outlet is tapped for ½-inch iron pipe.

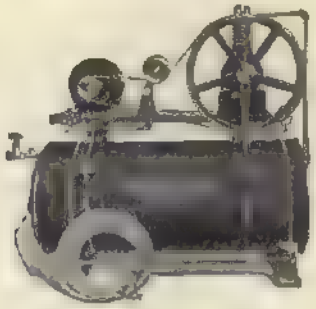
Cylinders, pistons and crank shaft are accurately ground to size. Main bearings are made of bronze and are renewable and of extra length to insure durability. Connecting rod is all bronze and wear can be taken up on crank pin end. All parts are of best materials. Finish, gloss black enamel.

Height, 22 inches. Floor space 25x22 inches.

Price, No. 47, 110-220-v., Single-phase, 60-cy., A. C.	each	430.00
Price, No. 47, 2 or 3-phase, 60-cy. A. C., 220-440-v.	each	370.00
Price, No. 47, 220-v., D. C.	each	415.00
" No. 47, 2 or 3-phase, 25-cy., A. C., 220–440-v.	each	425.00
Price, Water Cooling Tank, 12x36 inches (Optional)	each	20.00

Motors of other types at extra cost.

No. 742, BELT-DRIVEN ASSEMBLED OUTFITS



The No. 742 motor-driven outfit consists of a No. 102 air compressor, 2½ cubic feet free air per minute capacity, driven by a ½ horse power motor by leather belt with belt tightener. The whole power plant is mounted on a cast-iron sub-base, insuring rigidity of assembly with freedom from vibration. The power plant is mounted on a 32-gallon tank tested to 300 pounds, and guaranteed for working pressure of 150 pounds.

Equipment includes air gauge, check valve, 25 feet of ¾-inch Resistoil air hose connected to one No. 82 needle valve on one end and an automatic tire connection on the other.

This outfit, if installed with the Model M automatic pressure controller, will insure splendid service for a garage of average size, even when located on a popular highway and serving many cars each day. The operation of the outfit is most satisfactory from the standpoint of service and economical current consumption.

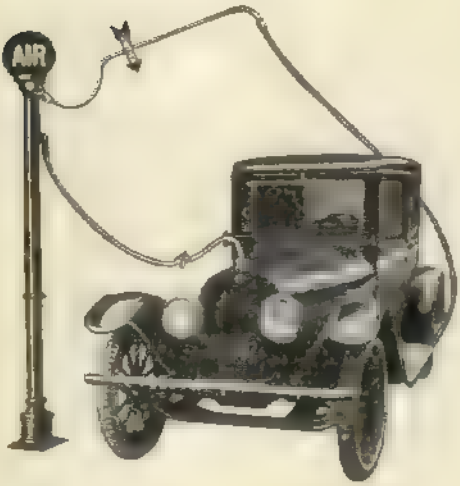
Size—38 inches long, 18 inches wide and 34 inches high.

Price, No. 742, Single-phase, A. C. 110-220-v., 60-cy.	each	285 00
Price, No. 742, D. C., 110 or 220-v.	each	280 00
Price, No. 742, D. C., 32-v.	"	285 00
" No. 742, Single-phase, A. C., 110–220-v., 25-cy.	each	300 00
Price, No. 742, Single-phase, A. C., 110–220-v., 40-cy.	each	300 00
Price, Model M Controller, Optional	each	35.00

Motors of other types at extra cost.

ROMORT AIR AND WATER STATIONS

MODEL SB AIR AND WATER STATIONS



The electric light globe is sand blasted and deep green in color with white letters which stand out prominently. The globe has a standard 6-inch base held firmly in place by a metal ring

A particular feature of the Romort Air and Water Station is the oil governor built into the head which controls the return of the extending arm. If this governor were not used, the sudden return of the vertical arm would possibly cause damage by being abruptly checked, because of the strength of the spring used in returning the arm. Adjustment is by means of [illegible] screw in the head. The chamber of the governor is filled with a 50 per cent solution of kerosene and lubricating oil or other non-freezing oils

It has a large roomy, round base with large door which encloses the installation and connections to the [illegible] and lighting [illegible] supply cable

Height, base to head, 6 feet, to top of arm, 12 feet. Radius of hose, 17½ feet.

Price, with Fittings . . . each **90.00**

MODEL SA AIR AND WATER STATIONS

Both the air and water hose are at all times clear of the ground and particularly so, when the station is not in use. This not only lengthens the life of the hose, but valve but affords a clear [illegible] of inflating tires and supplying the water to the radiator.

This type station is provided with a large base in which can be installed the air compressor and motor to make it a complete unit. This base is 17 inches high, 14 inches wide and amply large enough to house an ordinary one-quarter or one-half horse power motor with compressor

The station is also equipped with an electric automatic cut-off switch which will operate by pulling down the hose arm. When the hose arm is released, the compressor automatically closes down.

Equipped with automatic [illegible] valve water valve and universal hose connections

Price with Cut-out Switch, without Compressor . . . each **110.00**

Write us Your Requirements for Goods Not Listed.

For Nearly a Century the Store of Service.

GILLETTE SAFETY RAZORS

BIG FELLOW

Fig. 40605A

Price, Big Fellow, Triple Silver Plated Razor, Metal Blade Box, Natural Finish Gunwood Case . . . . . each 5.00

Price, Big Fellow G. Same as above with Gold Plated Razor, Gold Plated Blade Box . . each 6.00

MILADY DECOLLETTEE

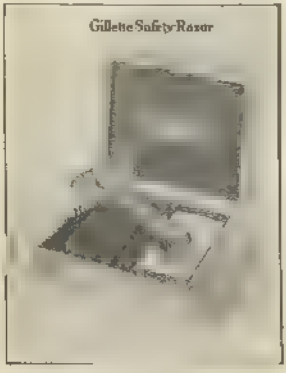


Fig. 40605B

The appropriate set for ladies, to keep the under-arm smooth

Set consists of special gold plated razor and gold plated blade box.

Price, Imitation Ivory Case, Old Rose Velvet and Satin Lined . . . . . each 6 00

Above set contains 24 shaving edges (12 double-edged Gillette blades).

ARISTOCRAT

Fig. 40605C

Gold plated razor. Blade box to match case

Price, Imitation Ivory Case, Purple Velvet and Satin Lined each 6.00

Above set contains 24 shaving edges (12 double-edged Gillette blades).

CHESTERFIELD

Fig. 40605D

Price, Chesterfield, Triple Silver Plated Razor and Engine-turned Case and Blade Box each 9 00

Price, Chesterfield G. Same style as above with Heavily Gold Plated Razor, Case and Blade Box . . . . . each 10 00

Above sets contain 24 shaving edges. (12 double-edged Gillette blades).

GILLETTE SAFETY RAZORS

CHIPPENDALE

Fig. 40606A

Price, Chippendale Triple Silver Plated Razor, Engine-turned Case and Blade Box .....each **9 00**

Price, Chippendale G Same style as above with heavily Gold Plated Razor, Engine-turned Gold Plated Case and Blade Box..... each **10.00**

DE LUXE

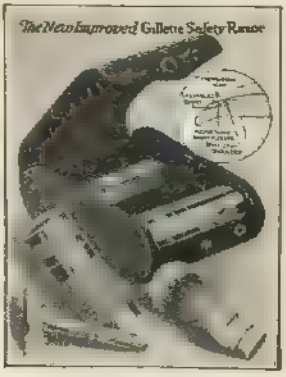


Fig. 40606B

Razor, soap and brush containers, and blade box are hand engraved and initialed. Plated with 22-karat gold. Hand engraved initials or monogram on case. Price, Morocco Case, Purple Velvet and Satin Lined ..... each **75 00**

Above sets contain 24 shaving edges, (12 double-edged Gillette blades.)

TRAVELER

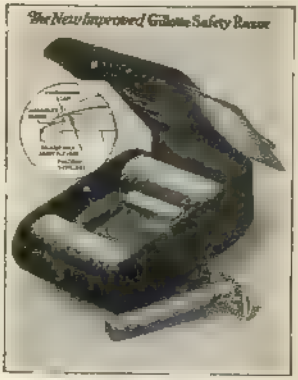


Fig. 40606C

Price, Traveler, Triple Silver Plated Razor with Shaving Brush and Stick Gillette Shaving Soap in Metal Containers. Metal Blade Box, Leather Case, Purple Velvet and Satin Lined. each **7.50**

Price, Traveler G Same style as above, with Gold Plated Razor and Fittings. Metal Mirror fitted into Pocket..... each **10 00**

GILLETTE BLADES

Fig 40606D

Each double-edged blade is placed in individual envelope and put in a sealed packet of either six or twelve blades.

Ten packets of twelve blades each or twenty packets of six blades each are contained in pasteboard carton.

Price 6 Blades, 12 Shaving Edges **50**
" 12 " 24 " " **1 00**

Write us Your Requirements for Goods Not Listed.

For Nearly a Century the Store of Service.

GILLETTE SAFETY RAZORS

PIONEER

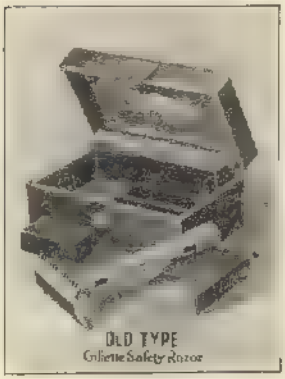


Fig. 40607A

Silver plated, dull finish, old type razor 12 shaving edges 6 double-edged Gillette Blades, two bakelite boxes to match the case.

Price Leatherette Covered Case, Purple Lined . . . . . each **2.50**

POCKET EDITION

Fig. 40607B

Silver plated, dull finish, old type razor 12 shaving edges 6 double-edged Gillette blades) in seal packet.

Price, Metal Case, Purple Lined . . . . . each **3.00**

BROWNIE

Fig. 40607C

Nickel-plated, dull finish, old type Gillette Safety Razor. 6 shaving edges, (3 double-edged Gillette Blades in sealed packet.

Price, Imitation Leather Covered Metal Case . . . . . each **1.00**

OLD TOWN CANOES

OTCA MODEL CANOES

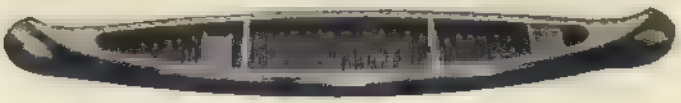


Fig. 40999A

The Otca is a wide, deep and roomy canoe. These features make it the steadiest, safest and most capacious canoe that is built. The floor is flat and wide, and carries far into the ends. The sides are convex, thus producing a handsome tumble home. It is equipped with decks 20 inches long having low coaming or deck and finish, and with open gunwales only. This canoe is not built for speed but for comfort, safety and fine appearance.

This model is suited for any use under any conditions, anywhere. It paddles easily, will carry the largest load comfortably, can handle a maximum sail area.

Dark green is recognized as the standard popular color for canoes. Dark green is the regular stock color for this canoe.

Extreme Length Feet	Extreme Width Inches	Depth Amidships Inches	Approximate Weight Pounds	Price, Each — With Open Mahogany Gunwales	Price, Each — With Open Spruce Gunwales
16	34½	12	75	**87.00**	**75 00**
17	35	13	80	**90 00**	**78.00**
18	37	13	85	**93 00**	**81.00**

Crating canoe for shipment, extra charge of 5.00

CHARLES RIVER MODEL CANOES

Fig. 40999B

As intended by the name, Charles River, this model is designed for use on rivers. Its flat floor gives the maximum craft and great steadiness. It is not recommended for use in rough water or large lakes where heavy winds would be encountered, as it does not draw enough water to hold its course as well as a canoe not so flat. For any use but this, however, it has every requisite demanded by a canoe connoisseur.

In its lines are speed and gracefulness, and it responds with ease and quickness to every movement of the paddle. The sides have a slight tumblehome. The ends curve with gracefulness given by the Indians to their bark canoes. A canoe of shapely outlines, steadiness, speed and popularity.

Dark green is the regular stock color for this canoe.

Extreme Length Feet	Extreme Width Inches	Depth Amidships Inches	Approximate Weight Pounds	Price, Each — With Open Mahogany Gunwales	Price, Each — With Close Spruce Gunwales	Price, Each — With Open Spruce Gunwales
16	32½	12	65	**83 00**	**67.00**	**71.00**
17	34	12	70	**86 00**	**70.00**	**74.00**
18	35	12½	75	**89.00**	**73.00**	**77 00**

Crating canoe for shipment, extra charge of 5.00

Write us Your Requirements for Goods Not Listed.

For Nearly a Century the Store of Service.

OLD TOWN CANOE EQUIPMENT

SINGLE PADDLE

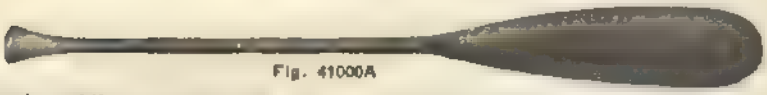


Fig. 41000A

Single paddle lengths, 4 ft 4 in., 4 ft 6 in., 4 ft 8 in., 5 ft., 5 ft 2 in., 5 ft 6 in., 5 ft 4 in. and 6 ft 4 in.

Price, Single Paddle, Spruce or Maple, 6 to 7 inch Blade		each	2 25
" " " " " "	8-inch Blade	"	2.50
" Double " " "	Friction Joint	"	6.00
" " " " "	Spoon	"	7.50
" Copper Tip for Paddle		"	.35
" Rubber Drip Cups for Double Paddle		"	.50

Flag Pole and Socket

Fig. 41000B

Cane Back Rest

Fig. 41000C

Double Width Slat Back Rest

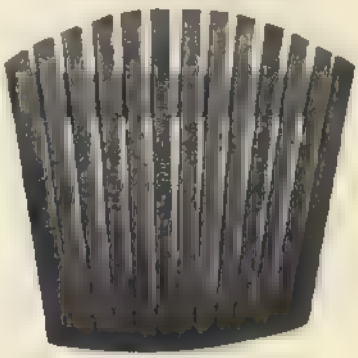


Fig. 41000D

Carrying Yoke

Fig. 41000E

Price, Flag Pole and Socket, Nickel		each	1 25
" " " Socket, Flush		"	.55
" Cane Back Rest, Hardwood Frame		"	2 25
" " " " Mahogany "		"	3.00
" Slat " " Spruce		"	1.25
" " " " Mahogany		"	1.75
" Double Width Slat Back Rest, Spruce		"	1 75
" " " " " " Mahogany		"	2.50
" Carrying Yoke		"	3 50
" Rudder		"	3 50
" Setting Pole with Pick		"	2 00
" Row Locks, Polished Brass, Swivel for Sponson Canoe		"	3 50
" " " " Side Plate for Regular Canoe		"	3.00
" Oars, Straight Blade, Leathered, Varnished (usually 7 Feet		per pr	4 35
" Cushions, Life Preserver		each	1 75

ANCHORS AND GRAPNELS

FIVE PRONG GRAPNELS

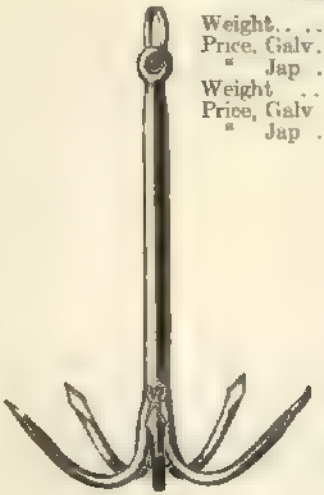


Fig. 41016A

Weight....pounds	3	3½	4	5	6	7	8
Price, Galv....each	.60	.70	.80	1.00	1.20	1 40	1.60
" Jap .... "	.48	.56	.64	.80	.96	1 12	1.28
Weight ....pounds	10	12	14	16	18	20	25
Price, Galv ....each	1.75	1.92	2.24	2.56	2.88	3.20	4.00
" Jap .... "	1.35	1 44	1.68	1 92	2.16	2.40	3.00

NAVY ANCHORS

Fig. 41016B

Galvanized with drop forged shank cast into head

Weight	pounds	5	10	15	20	25	30	35
Price	each	1.20	2.00	2.75	3.50	4.25	5.10	5.65
Weight	pounds	40	50	60	80	100	125	150
Price	each	6.20	7.30	8.50	11.00	13.50	16.75	20.25

WROUGHT IRON KEDGE ANCHORS

Fig. 41016C

Weight Pounds	Price, Each Jap	Galv.	Weight Pounds	Price, Each Jap.	Galv.
4	1.16	1.40	12	2.34	3.06
5	1.34	1.68	14	2.50	3.26
6	1 50	1 90	15	2.60	3.40
7	1.66	2.14	16	2.66	3.52
8	1.86	2 40	18	2.84	3.76
9	2.00	2.60	20	3.00	4.00
10	2.16	2.84	.	.	.

LARGER SIZES

Weights 25, 35, 50, 65, 75, 100, 125, 150, 200, 250, 275, 300, 325 and 350 pounds.

Prices upon application.

Write us Your Requirements for Goods Not Listed.

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE

RADIATOR FILLER CAPS

NO. 3—Continued.
Jordon—All models.
King—1918-1919.
Liberty—All models
Lexington—All models
Monroe—All models
Mitchell All models.
National 1915 and earlier.
Oldsmobile—45-37.
Pierce-Arrow -All models
Regal—1918-1919.
Saxon—6 Cyl
Standard Car—6
Stutz—All models.
Westcott—All models.
White—All models
Winton—1916 and earlier.

	Net Each
*NO. 4—2¼ in. diam., 16 U. S. S. female thread. Weight 7 oz.	$1.58
In lots of 12	1.40

Will fit the following cars
Cadillac—1914-15-16.
Columbia—All models.
Essex—All models.
Hudson—6-40.
Hudson—Super Six.

	Net Each
*NO. 5—2⅛ in diam., 14 U. S. S. male thread. Weight 5 oz.	$1.58
In lots of 12	1.40

Will fit the following cars:
Chandler—All models.
Cole—All models.
Detroiter—All models.
Elgin—1918-1919.
Henderson—All models
Jeffery Truck—All models
Jeffery—1916-1917
King—All models
Kissel Truck—All models
Locomobile—1915 and earlier
McFarlan—All models.
Oldsmobile—42-43.
Owen-Magnetic—All models.
Paige—1915-16-17-18.
Paige Gasoline Tank.
Ross 8—All models.
Stearns-Knight—4 Cyl
Stevens-Duryea—All models.

	Net Each
NO. 7 —2⅛ in. diam., 8 U. S. S. female thread	$1.96
In lots of 12	1.74

Will fit the following cars
Auburn—1918.
Glide—All models.
Hupmobile—1916-17-18

	Net Each
*NO. 8—2¼ in. diam., 16 U. S. S. female thread. Weight 7 oz	$1.58
In lots of 12	1.40

Will fit the following cars
Abbott-Detroit—1916, 6-24
Allen—All models
Chevrolet—Baby Grand.
Chevrolet—Royal Mail
Crow-Elkhart—All models
Diamond T Truck—All.
Dort—All models
Grant—All models
Hereshoff—All models.
Hollier—All models
Hudson—Super Six.
Hudson—6-40
Jackson—All models
Krit All models.
Michigan—All models.
Moline—All models
Moon—All models
Paterson All models
Republic Truck—All.
Stearns-Knight—8 Cyl.
Velie—1916.

	Net Each
*NO. 9—2⅜ in. diam, 16 U. S. S. female thread. Weight 5 oz.	$1.18
In lots of 12	1.06

Will fit the following cars.
Buick—All models

RADIATOR FILLER CAPS.

	Net Each
NO. 12—3 in. diam., 16 U. S. S. male thread	$1.58
In lots of 12	1.40

Will fit the following cars
American Motors—All
Bour-Davis—All.
Chevrolet—Baby Grand
Chevrolet—Royal Mail
King—All models.
Madison—All models.
Sun—All models.

	Net Each
NO. 13—1⅝ in. diam., 16 U. S. S. male thread	$1.18
In lots of 12	1.06

Will fit the following cars.
Dixie Flyer—All models.
Marmon Gasoline Tank.
Merlin Carriage—All.
Princess—All models.
States Motor—All.

	Net Each
*NO. 16—1¾ in. diam., 16 U. S. S. female thread Weight ¼ lb.	$1.18
In lots of 12	1.06

Will fit the following cars
Chevrolet 490.
Maxwell—1915-16-17

	Net Each
NO. 18—2¼ in. diam., 16 U. S. S. female thread	$2.86
In lots of 12	2.10

Will fit the following cars.
Mercer—All models.

	Net Each
NO. 19—1⅛ in diam., 16 U. S. S. male thread	$1.58
In lots of 12	1.40

Will fit the following cars:
Reo—All models.

	Net Each
NO. 20—2⅞ in diam., 16 U. S. S. male thread	$1.96
In lots of 12	1.74

Will fit the following cars
Chalmers—1915-16-17-18.
Hupmobile—1918-19.

	Net Each
NO. 21 2¼ in. diam., 16 U. S. S female thread	$1.58
In lots of 12	1.40

Will fit the following cars
Cadillac—1917-18.

	Net Each
NO. 22—1⅞ in diam., 16 U. S. S. female thread	$1.74
In lots of 12	1.52

Will fit the following cars.
Hupmobile—1918.

	Net Each
NO. 23—Open Top—2 in. diam., 16 U. S. S. female thread	$1.18
In lots of 12	1.06

Will fit the following cars
Maxwell—1918.
Maxwell Gasoline Tank.

	Net Each
NO. 24—2⅞ in. diam., 16 U.S. S male thread	$1.58
In lots of 12	1.40

Will fit the following cars
Scripps-Booth—All models.

	Net Each
NO. 25—2½ in diam., 16 U. S. S. female thread	$2.50
In lots of 12	2.10

Will fit the following cars
Marmon—All Models 34

	Net Each
NO. 25H—3⅛ in diam, 16 U. S. S. female thread	$2.72
In lots of 12	2.44

Will fit the following cars
Marmon—All Models 34 with hole for Moto Meter.

	Net Each
NO. 26—2¼ in. diam., U. S. S. female thread	$1.96
In lots of 12	1.74

Will fit the following cars:
Peerless—All Models 56 with hole for Moto Meter.

	Net Each
*No. 29 Weight ¼ lb	$1.58
In lots of 12	1.40

Will fit the following cars:
Nash—All models.
Oakland 1917-18

BOYCE MOTO-METERS.

The BOYCE MOTO-METER is a motor heat gauge. Attached to the radiator cap of automobiles, trucks or tractors, it accurately registers condition in which gasoline motor is operating by registering the temperature of the vapor directly above the water in the radiator. As the water in the bottom of the radiator is several degrees cooler than at the top, the temperature of the air over the water represents the average temperature of the entire cooling system, rather than just one part of it. Therefore the BOYCE MOTO-METER gives an accurate reading irrespective of the quantity of water in the radiator.

Under normal conditions no modern automobile engine will overheat. It is only through negligence in applying water and oil, or the breakdown or failure of operation in some of the parts of the engine, that causes overheated engines, with the consequent damage. Realizing that the motorist has no way of detecting overheated engines from the many causes, before damage results, the BOYCE MOTO-METER was invented to give the driver accurate knowledge as to the exact temperature at which his engine is operating without leaving his seat.

Of all the automobile accessories sold there is none that gives such wonderful service as the BOYCE MOTO-METER. It may be quickly and easily applied to the radiator cap of any automobile, truck or tractor. It takes very little room, has an all-year demand, and is a clean sale with no come-backs; requiring no service and having no depreciation in your stock.

DISPLAY STAND.

This attractive mahogany counter stand is furnished free, together with a mahogany "Free Dial Offer" Board for your wall, and a four-color Service Sign for your door or window, as long as they last, with your first order for ten or more assorted BOYCE MOTO-METERS, one delivery. These are known as the "Big Three" Sales Helps These attractive silent salesmen have met with untold success during the past year in aiding the dealer in pushing the sale of BOYCE MOTO-METERS.

The BOYCE MOTO-METER is extensively advertising by the manufacturer in all classes of publications. They also furnish complete electros so that the dealer can carry on local advertising. Sales literature, booklets, circulars, etc., are furnished free, upon request.

*ONLY THOSE NUMBERS WHICH ARE STARRED (*) ARE CARRIED IN STOCK. ALL OTHERS WILL BE SHIPPED DIRECT FROM FACTORY.

BOYCE MOTO METER

DE LUXE.

This model is all that the name implies, having been designed for the highest grade passenger cars. The temperature tube is one-half inch in diameter, having a broad column of red liquid, readable at a great distance. The case is silver plated, and the finish of the entire instrument is of the highest quality of workmanship. It is in truth a "De Luxe" instrument. Size 3⅜x5⅝ inches. Weight (packed in carton) 20 ounces.

		Net Each
NO. 49	List $15.00	$12.50
Lots of 10		21.00
Lots of 20		18.90

STANDARD.

A perfect heat recording instrument of the highest type, with extremely broad ribbon-bore thermometer tube, designed for those who want the best. Because of its perfection of workmanship, the Standard Model has been selected as regular equipment on America's leading cars. Size 3⅜x5¼ inches. Weight (packed in carton) 16 oz.

		Net Each
NO. 51	List $10.00	$15.00
Lots of 10		14.00
Lots of 20		12.60

TRUCK AND TRACTOR.

The Truck and Tractor Model BOYCE MOTO-METER has been designed especially for severe service conditions, such as for use on trucks and tractors. The diameter of the thermometer tube is one-half inch, which makes breakage practically impossible. The frame of the instrument is very substantial, and the thermometer tube thoroughly protected. The casing is nickel plated, and the tube has a broad red column of indicating liquid, easily seen regardless of dust conditions, so often met with in truck and tractor service. Size 2⅞x4¾ inches. Weight (packed in carton) 16 ounces.

		Net Each
NO. 57	List $10.00	$15.00
Lots of 10		14.00
Lots of 20		12.60

UNIVERSAL.

Slightly smaller than the Standard Model, finished in all nickel. A very beautiful instrument. Beveled crystals add to its appearance. Its handsome open face is more easily read than a clock. Size 3x5 inches. Weight (packed in carton) 12 oz.

		Net Each
NO. 52	List $7.50	$11.25
Lots of 10		10.50
Lots of 20		9.45
NO. 52B—Universal with "Buick" name plate	List $7.50	11.25
Lots of 10		10.50
Lots of 20		9.45
NO. 52D—Universal with "Dodge" name plate	List $7.50	11.25
Lots of 10		10.50
Lots of 20		9.45

"JUNIOR."

This model is extremely handsome in appearance and appeals strongly to owners of cars of medium size. The frame of this instrument is heavily nickel plated and it has the same range of temperature as the Standard and Universal Models. Size 3x4⅞ inches. Weight (packed in carton) 8 ounces.

		Net Each
NO. 50	List $5.00	$7.50
Lots of 10		7.00
Lots of 20		6.30

"MIDGET."

A genuine BOYCE MOTO-METER especially designed to meet the demand of the small or light car owner. It combines accuracy with sturdiness of construction and fits on the regular radiator cap of all small cars. Size 2¼x3¾ inches. Weight (packed in carton) 5 ounces.

		Net Each
NO. 55	List $2.50	$3.75
Lots of 10		3.50
Lots of 30		3.15

Boyce Moto Meters are frequently sent in for repair because the red column remains near the top at all temperatures, therefore, please explain to your dealers that an instrument in this condition is not out of order, but simply requires the shaking down of the liquid. Never install a Boyce Moto Meter until the column registers near the point marked "Cool Motor."

We have Top and Body Accessories.

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE.

FORD SPECIAL.

The Special Model for the **FORD** has been designed particularly for use on this car and will operate more satisfactorily on a **FORD** car than any other model Boyce Moto-Meter

If every **FORD** owner knew the value of a Boyce Moto-Meter for the **FORD** car, he would, without question, install a special **FORD** Model immediately. The beauty of this instrument on the radiator cap of a **FORD**, together with its utility, is an investment that every **FORD** owner should make. Complete with specially designed black combination radiator cap. Size, 2⅝x3⅜ inches. Weight (packed in carton) 7 ounces.

	Net Each
NO. 58 ..... List $3.50	$3.25
Lots of 10	4.90
Lots of 20	4.41

OVERLAND SPECIAL.

Designed especially for Overland, Willys "6," and Willys-Knight cars

The Overland type Boyce Moto-Meter varies from the regular type in the matter of the design of the stem.

This stem has to be made smaller and threaded so as to screw down through the same hole as does the fitting furnished with the Overland car to hold the oval cap on.

Made in four models as follows: Standard Universal Junior, and Midget

NOTE.—1920 Willys-Knight cars will take regular type Standard model

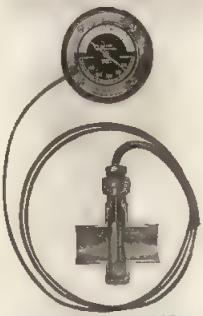
	Net Each
NO. 52-0—Universal type ..List $7.50	$11.25
Lots of 10	10.50
Lots of 20	9.45

The No. 52-0 is the only Overland model carried in stock, but any of the other types can be supplied direct from factory

MOVING PICTURE SLIDES.

Dealers should carefully note this feature in the Boyce Moto Meter Company's advertising campaign. Lantern slides made in standard sizes will be furnished by the Moto-Meter Company free of charge. The name and address of the dealer will be imprinted on these slides. The factory takes care of all of the details in this connection, and all that is necessary is to inform them that you want one of these slides and give them the imprint desired.

BOYCE MOTO-METERS.



LONG DISTANCE TYPE.

This dashboard type Boyce Moto Meter is especially designed for installation where the radiator type instrument cannot be installed on a line with the operator's vision, as on airplanes, motor-boats, stationary engines, laboratory testing purposes, trucks, tractors and automobiles Black enamel case (3½ inches in diameter), nickel plated rings, bevel led crystal, and red and white pointer Temperature ranges from 32 to 212 degrees F. Complete with five feet of heavy tubing and hose coupling or flange.

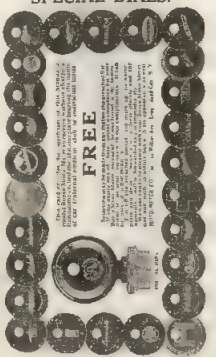
To install it is only necessary to cut away one inch of the hose on the outlet pipe of the motor, between the motor and the radiator.

In ordering be sure to state the exact size of the inside hose dimensions

	Net Each
NO. 58	$27.00
In lots of 10	25.20
In lots of 20	22.68

Weight 1½ lbs.

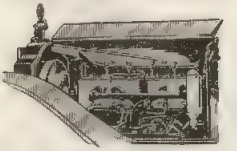
SPECIAL DIALS.



In each box containing a De Luxe or a Standard model is a postal card addressed to the factory It entitles the purchaser to a special etched metal dial for the front of the instrument Dials are supplied gratis, and include the name of the car, club emblem, lodge emblem, or initial

One of the features of the De Luxe model is the privilege of the purchaser to have his three initials engraved on a special dial free of charge. On the Standard model initial dial, only one letter can be supplied.

BOYCE FIRE EXTINGUISHER



INSTALLED ON DASH.

Extinguisher

Showing the Extinguisher In Attaching Bracket.

The "Boyce" is installed **under the hood** As soon as the fire starts, the extinguishe sprays its contents on to the heated surface o the motor. The heat of this surface, combined with the heat of the fire, causes the liquid to vaporize and fill the hood with quenching vapor that no blaze can withstand The flames are extinguished instantly

And bear this in mind the "Boyce" will only operate **when there's actually a fire.** An overheated motor, no matter what temperature it reaches, cannot melt the fuse But the instant a fire starts, the "Boyce" gets to work.

This is the kind of protection that owners of gasoline engines have always wanted. For it is protection—real positive protection—**protection that takes the fear out of gasoline fires.**

No other extinguisher will put out a fire under the hood **automatically.**

The ideal extinguisher for the home Simple and always positive No pumping is ever necessary

A greenish tinted crystal container, metal bracket, nickel plated fuse parts.

The liquid is colorless, harmless to operator or material—will not freeze—a non-conductor of electricity

	Net Each
NO. 18—Pint size complete with bracket.	$ 9.00
Lots of 10	8.00
Lots of 60	7.20
NO. 14 Quart size complete with bracket	12.00
Lots of 10	10.70
Lots of 60	9.60

We have Top and Body Accessories.

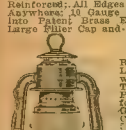
LANTERNS.

DIETZ TUBULAR.
FOR KEROSENE.

Can be Filled, Lighted and Regulated without Removing the Globe.

COLD BLAST.

Made of Heavy Gauge Metal, Smoothly Finished, All Joints Securely Soldered; Side Tubes Double Seamed and Reinforced; All Edges Hemmed, leaving no Sharp Edges Anywhere; 10 Gauge Steel Wire Standing Bail Hooked into Patent Brass Eyelets; Solderless Founts; Extra Large Filler Cap and Collar.



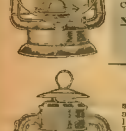
LITTLE WIZARD.

HEAVY TIN, BRIGHT; Large Round Tubes; Safety Inside Side Lift; Tinned Steel Wineglock Burner with ⅝ in Wick and a Rising Cone; The Cone is a Part of the Globe Plate giving direct access to Cone for Cleaning and Lighting; No. 1NS Globe; Dome Shaped Oil Fount, Capacity 1 Pint; Diameter of Base 3 in.

Holds Sufficient Oil to Burn 18 Hours; Volume of Light by Test 6 Candle Power.

Per Doze
No. 1LW—Height with Bail Down 11¾ in.; Weight per dozen about 30 lbs. $26.00

One Dozen in a Case



D-LITE.

Large Round Tubes; Safety Inside Side Lift; Notched Bail Holder at side of Tube; Tinned Steel Wineglock Burner with 1 in. Wick and Rising Cone, the Cone being a Part of the Globe Plate; No. 2 Short Globe; Dome Shaped Oil Fount, Capacity 2 Pints; Diameter of Base 4¼ in.; Height with Bail Down 13¾ in.

Holds Sufficient Oil to Burn 20 Hours; Volume of Light by Test 10 Candle Power

Per Dozen
No. 2DT — HEAVY TIN, BRIGHT $32.00

One-half Dozen in a Case, Weight per Case about 32 lbs.

SPECIAL D-LITE.
EXTRA LARGE FOUNT.

Large Round Tubes; Safety Inside Side Lift; Notched Bail Holder on Side of Tube; Tinned Steel Wineglock Burner with 1 in. Wick and Rising Cone, the Cone being a part of the Globe Plate; Non-lock Globe cannot fall out when swung back for cleaning or lighting Wick; Dome-shaped Oil Fount, Capacity 2 Pints; Diameter of Base 4¼ in.; Height with Bail Down 13¾ in.

Holds Sufficient Oil to Burn 40 Hours; Volume of Light by Test 10 Candle Power.

Per Dozen
No. 2S—HEAVY TIN, BRIGHT $35.20

One-half Dozen in a Case; Weight per Dozen about 32 lbs.

SPECIAL No. 2 BLIZZARD.

EXTRA LARGE FOUNT.

HEAVY TIN, BRIGHT; Large Round Tubes; Safety Inside Side Lift; Notched Bail Holder at Side of Tube; Tinned Steel Wineglock Burner with 1 in. Wick and Rising Cone, the Cone being a Part of the Globe Plate; No. 2 Globe; Oil Fount Capacity 2 Pints Diameter 7¾ in.

Holds Sufficient Oil to Burn 40 Hours, Volume of Light by Test 10 Candle Power

Per Dozen
No. 2BS—Height with Bail Down 13 in.; Weight per Dozen about 60 lbs. $35.20

One-half Dozen in a Case.

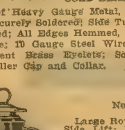
LANTERNS.

DIETZ TUBULAR.
FOR KEROSENE.

Can be Filled, Lighted and Regulated without Removing the Globe.

COLD BLAST.

Made of Heavy Gauge Metal, Smoothly Finished; All Joints Securely Soldered; Side Tubes Double Seamed and Reinforced; All Edges Hemmed, leaving no Sharp Edges Anywhere; 10 Gauge Steel Wire Standing Bail Hooked into Patent Brass Eyelets; Solderless Founts; Extra Large Filler Cap and Collar.



No. 2 BLIZZARD.

Large Round Tubes; Safety Inside Side Lift; Notched Bail Holder at Side of Tube; Tinned Steel Wineglock Burner with 1 in. Wick and Rising Cone, the Cone being a Part of the Globe Plate; No. 2 Globe; Dome-shaped Oil Fount, Capacity 1¾ Pints; Diameter of Base 4¼ in.; Height with Bail Down 14¾ in.

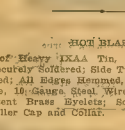
Holds Sufficient Oil to Burn 20 Hours; Volume of Light by Test 10 Candle Power

Per Dozen
No. 2BT — HEAVY TIN, BRIGHT $32.00

One-half Dozen in a Case; Weight per Dozen about 52 lbs.

HOT BLAST.

Made of Heavy IXAA Tin, Smoothly Finished; All Joints Securely Soldered; Side Tubes Double Seamed and Reinforced; All Edges Hemmed, leaving no sharp edges anywhere, 10 Gauge Steel Wire Standing Bail Hooked into Patent Brass Eyelets; Solderless Founts; Extra Large Filler Cap and Collar.



MONARCH.

HEAVY TIN, BRIGHT; Large Round Tubes; Positive Locking Globe Lift; Tinned Steel Wineglock Burner with ⅝ in. Wick; No. 01 Globe; Dome-shaped Oil Fount, Capacity 1 Pint; Diameter of Base 3¼ in.; Height with Bail Down 13¾ in.

Holds Sufficient Oil to Burn 18 Hours; Volume of Light by Test 4 Candle Power.

Per Dozen
No. 01M—WITH No. 01 GLOBE. $21.00
No. 01MR—WITH No. OR RUBY GLOBE 27.00

One Dozen in a Case; Weight per Dozen about 36 lbs.

BUCKEYE, DASH—HOT BLAST.

CLIP-SPRING DASHBOARD ATTACHMENT AND BRIGHT CORRUGATED TIN REFLECTOR. Large Square Tubes Positive Locking Globe Lift, Tinned Steel Wineglock Burner with ⅝ in Wick; No. 01 Globe; Dome-shaped Oil Fount, Capacity 1 Pint; Diameter of Base 3¼ in.; Height with Bail Down 13¾ in.; 2¼ IN. BULL'S EYE, WITH STEEL RIM SECURELY SOLDERED TO GLOBE PLATE.

Holds Sufficient Oil to Burn 19 Hours; Reflected Light by Test 10 Candle Power.

Per Dozen
No. 01D—HEAVY TIN, BLACK ENAMELED. Weight per dozen about 52 lbs. $35.70

One-half Dozen in a Case

LANTERNS.

DIETZ TUBULAR.

FOR KEROSENE.

Can be Fitted, Lighted and Regulated without Removing the Globe.

Made of Heavy IXAA Tin, Smoothly Finished; All Joints Securely Soldered; Side Tubes Double Seamed and Reinforced, All Edges Hemmed, leaving no sharp edges anywhere; 10 Gauge Steel Wire Standing Bail Hooked into Patent Brass Eyelets; Solderless Founts; Extra Large Filler Cap and Collar.

WAGON LANTERNS HAVE A COMBINATION LEFT HAND DASHBOARD ATTACHMENT, Consisting of a Side Clip-spring and a Socket which takes a Round or a Flat Bracket, Bright Corrugated Tin Reflector with a 2¼ in. Ruby Rear Lens.

DIETZ ROADSTER—WAGON.

Large Round Tubes; Sliding Inside Side Lift; Tinned Steel Winglock Cone Burner with ⅞ in. Wick; No. 1NS Globe, Dome-shaped Oil Fount, Capacity 1 Pint; Diameter of Base 5⅝ in.; Height with Bail Down 11½ in.

Holds Sufficient Oil to Burn 13 Hours; Reflected Light by Test 10 Candle Power.

Per Dozen

No. 1RW—HEAVY TIN, BLACK ENAMELED, WITH ROUND AND FLAT BRACKET; Weight per dozen about 60 lbs.....**$4.00**

One-half Dozen in a Case.

DIETZ RAILROAD.

VESTA, TUBULAR—COLD BLAST.

No. 39 PATTERN RAILROAD.

FOR SIGNAL OIL.

Heavy Gauge Round Wire Guard; Upright Wires are Locked to Base Ring by a Patented Band; Canopy Hinged to Guard; Patented Tinned Steel Winglock Burners, No. 2, with 1 in. Wick; A Short Turn Securely Locks the Burner. The Oil Fount is provided with a Safety Well and is held securely to the Frame by an Automatic Retaining Spring; Fitted with Regular No. 39 Globe; With Outside Wick Raiser.

Height with Bail Down 10 in.; Oil Fount Capacity ⅝ Pint; Holds Sufficient Oil to Burn 24 Hours; Volume of Light by Test 2 Candle Power.

STANDARD, R. R.

(No. 39 Pattern.)

Per Dozen

No. 39/S—WITH STAMPED TIN BASE, 5⅞ in. in Diameter; Weight per dozen about 44 lbs.....**$4.20**

One Dozen in a Case.

GASOLINE MANTLE LANTERNS.

QUICK-LITE.

The Extra Small Generator Tube makes it possible to get sufficient Heat from Two Ordinary Matches to start Lamp.

AIR-O-LITE—GASOLINE VAPOR.

200 CANDLE POWER.

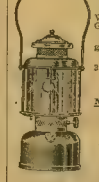
For General use around Barns and Stables and for Household Purposes; Will not Blow Out.

Full Nickel Plated; Tank or Fount 18 Gauge Seamless Brass, with ¼ in. Threaded Filler Cap and Air Valve; Heavy Brass Perforated Canopy; Double Gasoline Mantle Burner; Hard Fibre Shut-off Valve; Automatic Cleaning Valve prevents Clogging; 10 Gauge Steel Wire Bail; Metal Bound Mica Chimney with Reflector; Swinging Door in Reflector for inserting Matches when Lighting.

Complete with Two Rag Mantles, Pump, Wrench, Extra Generator Complete, Extra Gas Tip and Wire Cleaning Pick.

Easy to Light, Turns Low, and is extinguished by Closing Valve.

Will Burn 15 Hours with One Filling of 3 Pints of Gasoline.



Each

No. QL327—AIR-O-LITE; Chimney 8 in. High, 6 in. in Diameter; Base 6¼ in. in Diameter; Height, with Bail Down, 15¾ in.; Weight each about 6 lbs.....**$10.50**

One in a Fibre Carton, with Directions for Operating.

ACETYLENE LANTERNS.

JUSTRITE.

FOR SPORTSMEN, MOTORISTS, FARMERS AND MINERS.

Heavy Drawn Tin, Brass, Nickel Plated and Highly Polished; Is Composed of Two Parts:

FIRST—The Upper Frame with Heavy Wire Guards enclosing Glass Globe, Burner, Reflector, Gas Feed and Carbide Container.

SECOND—The Fount or Water Reservoir; Globe is Heavy Crystal Glass, with a Double Bayonet Catch where Top or Crown Piece is securely fastened; Crown Piece and Globe are held firmly by a Spring Device attached to Crown Piece; A slight pressure of the finger releases Steel Spring, so that Globe can be easily removed and replaced; Heavy Glass Removable Bull's Eye Lens, securely fastened to Guard.

Lantern generates Acetylene Gas Automatically; Burns 5 or 6 Hours and Produces a 30 Candle Power Light; So Constructed that Gas can be turned off at Burner and is prevented from exploding by a Small Safety Vent in Wire Guard.

Height over all with Bail down 9¼ in.; Diameter at Base 4½ in.; Instructions for Operating Included.

Each

No. 10—Weight each about 1¼ lbs.....**$6.70**

One in a Fibre Box.

‡STREET LAMPS.

FOR KEROSENE.

IX TIN, ENAMELED DARK GREEN; Heavy Wire Hook attached to Side Tubes to support the Globe when Raised; No. 3/8 Globe; NO CHIMNEY REQUIRED; No. 3 Brass Burner; No. 3—1 1/2-in. Flat Wick; Adjustable Wick Regulator and Filler Cap; Removable Fount, Holds Sufficient Oil to Burn 14 Hours and Equipped with a Time Regulating Device, Adjustable to Burn a given number of hours; Can be Filled, Lighted and Regulated without Removing Globe; Cold Blast Top, making the Lamp Absolutely Wind-proof.

POST, TUBULAR.

Each

*‡No. 103/S—Height from Bottom of Socket to Top of Canopy 28½ in.....**$11.00***

One in a Case; Weight Each about 20 lbs.

‡Goods marked thus (‡) are not carried in stock and can only be furnished by shipment direct from factory.

—1882—

DRIVING LAMPS.

EUREKA.

A Small Practical Driving Lamp; Fastened to Dash Board with a Dash Clamp Holder which is Furnished with each Lamp. Tinned Steel Burner with ⅝ in. Wick; Height with Ball Down 7¼ in.; 3 in. Deep Lens; Small Red Lens in Rear

Holds Sufficient Oil to Burn 10 Hours.

WITHOUT SIDE LENS.

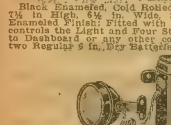
	Per Dozen
No. 0EDR—FOR RIGHT HAND	$42.00
No. 0EDL—FOR LEFT HAND	42.00

One Dozen in a Case. Weight per Dozen about 26 lbs.

ELECTRIC BUGGY LAMPS.

DELTA.

Black Enameled, Cold Rolled Sheet Steel Battery Case 7¼ in. High, 5¾ in. Wide, 3 in. Deep. Baked Black Enameled Finish; Fitted with Nickel Plated Slide Switch controls the Light and Four Steel Brackets for attaching to Dashboard or any other convenient place. Will hold two Regular 9 in. Dry Batteries, either Round or Square.



	Each
No. 32—COMPLETE WITH TWO DRY BATTERIES In Ct. Weight each about 7 lbs	$8.00
No. 32 X—WITHOUT BATTERIES. Weight each about 2 lbs.	4.00

One in a Cardboard Carton; Batteries Packed Separately.

Body of Lamp Drawn from One Piece of Heavy Gauge Sheet Steel, 3 in. in Diameter, Baked Black Enameled Finish; Door Frame is fastened to body with Bayonet Catch and fitted with a Clear Convex Lens; Highly Polished Silver Plated Reflector, Parabola Shaped, with Perforations which allow sufficient Light to Illuminate the Red Jewel in Rear; Equipped with a 2-8 Volt, Mazda Bulb and 10 feet of Insulated Double Wire which is sufficient for wiring System to any Vehicle; Bracket is of Heavy Strip Steel and can be Attached to the Panel of Seat on either side of any Vehicle; Furnished Complete with Bolts and Nuts for attaching.

Operates on Two Regular 6 in. Dry Batteries giving about 30 hours Actual Service.

LIGHTLESS TAIL LIGHTS.

"SAFETY FIRST"

FOR REAR OF BUGGIES OR WAGONS.

Does not require Oil, Wick, Flame nor Electricity, yet always affords protection with a Brilliant, Penetrating Red Light at rear of any Vehicle.

Uses the Light from Headlights of oncoming Automobiles; As soon as a Red Light strikes the adjusted Metal Mirrors of this Light, a Red Gleam is thrown out just exactly as if there was a real Lamp on Rear of Vehicle.

Heavy Steel Black Japanned Case 3⅜x3⅜ in. with Nickel Plated Rim; Heavy Steel Flat Plate on Back with Screw Holes for attaching; Adjusted Metal Mirrors Inside; Clear Glass Lens 3⅜x3⅜ in., with 2⅞ in. Transparent Red Circle in Center.

	Per Dozen
No. 1—Weight per dozen about 6½ lbs	$20.40

One-twelfth Dozen in a Cardboard Box

ACETYLENE GAS LAMPS.

BRILLIANT.

FOR HUNTERS, FISHERMEN, MINERS AND SPORTSMEN.

Top provided for the Water Supply, Lower Part used for the Carbide; Removable Telescoped Brass Carbide Retainer in Two Sections, Top of Generator fitted with Screw Filler Cap, with Small Pin Hole to Prevent the Gas Accumulating and Exploding; Water Supply Regulated by Thumb Nut on Top of Generator; Generator Connected by a Tube to the Gas Magazine extending through the Water Reservoir.

	Per Dozen
No. 175—COMPLETE. Weight per dozen about 24 lbs	$167.30

One-twelfth Dozen in a Wooden Box.

Metal Strap on Side, with Ring, to fasten Generator to Cartridge Belt. Light Can be Worn on Hat or Cap, Carried in Hand, Hung up, Strapped on a Pole, set on Table, etc.; Double Walled Chimney, which keeps Lamp from Overheating; Heavy Magnifying Bulls Eye Lens to Concentrate the Light for Long Range Work; Darkening Door which fits over Lens to Shut off Light, fastened by Hinge; Removable Burner Base; Removable Reflector, Stamped Steel Bottom with Threaded Edge, Screws on.

Black Japanned Finish Generator; All Parts Riveted and Well Fit up; Brass Carbide Container Partitioned on Inside; Capacity 4½ oz. Sufficient to Burn from four to twelve Hours, according to size of Flame.

Black Japanned Finish Headlight, with Nickel Plated Reflector; Diameter of Face 4 in.; Lava Tips, Wire Spring Fasteners on Lens; Gas Tube ¼ in. in Diameter leading to Burner around the Head and Connected to Generator by 7½ in. Rubber Tubing, with Wire Coil on Inside which keeps it from Kinking; Throws a Clear Light 200 Yards Ahead

JUSTRITE.

For Hunters, Drivers, Fishermen, Miners, Inspectors and Sportsmen.

Upper Half of Supply Can Provided for the Water Supply, Lower Half used for the Carbide; Removable Generator in Two Parts, Clamp by a Nickel Plated Spring Clamp which slips over Bottom of Generator; Top of Generator Fitted with Filler Cover; Water Supply Regulated by Thumb Nut on Top of Generator, Generator Connected by a Tube to the Gas Magazine extending through the Water Reservoir.

	Per Dozen
No. 44—COMPLETE. Weight per doz. about 24 lbs.	$114.00

One in a Cardboard Box.

Metal Strips on Back to Fasten Generator to Belt; Light can be worn on Hat or Cap, Carried in Hand, Hung up, Strapped on a Pole, Set on a Table, etc. Chimney on Top, which keeps Lamp from Overheating; Heavy Magnifying Bulls Eye Lens to Concentrate the Light for Long Range Work; Removable Burner Base; Removable Reflector.

Lead Coated Steel Generator, Black Japanned, Lock Seamed and Well Soldered; Concaved to fit Body; Round Corners; Capacity 5 ozs. Sufficient to Burn from four to fifteen Hours, according to size of Flame

Nickel Plated Brass Headlight; Highly Nickel Plated Reflector; Diameter of Face 2¾ in.; Lava Tips, Wire Spring Fastener on Lens with Friction Lighter Attached; ¼ in. Tube runs around Head from Generator to Headlight, Held in Place by Clamp on Body of Lamp; Strong Khaki Canvas Belt with Black Finish Buckle and End. Throws a Clear Light 200 feet ahead.

Gold Plated Cameo Brooches

Leaders in Their Line for Quality and Prices

No. 35J50. Gold plated, rose finish, embossed design, pink and white cameo. Per dozen..... 1.00

No. 35J75. Gold plated, rose finish, open work, embossed design, large size, pink and white cameo. Per dozen 1.25

No. 35J76. Gold plated, rose finish, embossed design, large size pink and white cameo. Per dozen 1.25

No. 35J1. Gold plated, rose finish, fancy embossed design, pink and white cameo. Per dozen. 1.50

No. 35J3. Gold plated, rose finish, fancy mounting, large size, pink and white cameo. Per dozen..... 1.50

No. 35J8. Gold plated, rose finish, fancy mounting, large size, pink and white cameo. Per dozen 3.75

No. 35J4. Gold plated, rose finish, fancy open work border, large size, pink and white cameo. Per dozen..... 3.25

No. 35J200. Gold plated, English finish, fancy open border, surrounded with pearls with large pink and white cameo. Per dozen..... 3.75

No. 35J6. Gold plated, rose finish, fancy open border, large fine cut pink and white cameo. Per dozen..... 4.00

Gold Plated Cameo Brooch Assortment

No. 35J10. Gold plated, rose finish, 12 assorted patterns, fancy open work border. Twelve on fancy display card. Per dozen..... 3.75

SHURE THE PRICE WINNER

18.00 PER DOZEN

Genuine Cameo Brooches

18.00 PER DOZEN

Formerly Sold from 36.00 to 48.00 per Dozen

The Cameo Brooches illustrated on this page comprise manufacturer's line of discontinued numbers of high-grade, genuine Cameos of Pink and White color, also Cornelians, artistically hand carved, made of gold filled stock, patent catch to prevent losing.

No. 37J10. Cameo Brooch Assortment. Shown above. Comprises Cameos from one inch to two inches in size. Finest guid filled stock. Guranteed to keep its color and give entire satisfaction. We will be unable to fill any orders after this stock is exhausted, so order early.

Per Dozen . . . 18.00

WHOLESALE N. SHURE CO. CHICAGO.

Gold Filled, Pink and White Cameo Brooches

Extra Fine Genuine Cameos, Very Latest Designs and Lowest Prices

No. 37J100. Gold filled, English finish, green gold leaves, open work, genuine cameo. Each ..... .65

No. 37J101. Gold filled, English finish, green gold leaves, open work, genuine cameo. Each ..... .65

No. 37J102. Gold filled, English finish, open work, 2 pearls, genuine cameo. Each ..... .65

No. 37J4. Gold filled, English finish, open work, green gold leaves, genuine cameo. Each 1.00

No. 37J3. Gold filled, English finish, open work, green gold leaves, genuine cameo. Each 1.00

No. 37J150. Gold filled, English finish, open work, green gold leaves, genuine cameo. Each ..... .75

No. 37J200. Gold filled, English finish, open work, green gold leaves, large size cameo. Each.. 1.50

No. 37J250. Gold filled, English finish, open basket work, large size, pink and white cameo. Each 1.50

No. 37J251. Gold filled, English finish, open basket work, large size pink and white cameo. Each 1.75

No. 37J5. Gold filled, English finish, open basket work, green gold ornaments, genuine pink and white cameo. Each 1.90

No. 37J6. Gold filled, English finish, green gold leaves, genuine pink and white cameo. Each 2.10

No. 37J8. Gold filled, English finish, engraved border, genuine pink and white cameo. Each 2.30

No. 37J7. Gold filled, English finish, open basket work, set with 4 genuine pearls and genuine pink and white cameo. Each 2.30

No. 37J9. Gold filled, English finish, open work, set with 8 fine pearls and large genuine pink and white cameo. Each .....

No. 37J103. Gold filled, English finish, green gold leaves, open work, genuine cameo. Each..... .85

No. 37J104. Gold filled, English finish, green gold leaves, genuine cameo. Each ..... .65

KELLY AXES

Flint Edge Single Bit
Connecticut Pattern

Fig. 40015A

Vulcan Single Bit
Connecticut Pattern

Fig. 40015B

FLINT EDGE SINGLE BIT AXES

Plain shape, cannon finish. Weight 2½ to 4 pounds.
Unhandled packed one dozen in box. With No. 1 oval handles, ½ dozen in box
Price..... per dozen

VULCAN SINGLE BIT AXES

Plain shape, cannon finish. Weight 2½ to 4 pounds
Unhandled packed one dozen in box. With No. 1 oval handles, ½ dozen in box
Price..... per dozen

NEW ENGLAND SINGLE BIT WITH HANDLE

Fig. 40015C

All weights 3 to 6 pounds. Packed one dozen in box, unhandled. Packed ½ dozen in box, handled.
Price..... per dozen

PERFECT SINGLE BIT, NEW ENGLAND PATTERN

Fig. 40015D

Full polished deep blue oval. Weight 2½ to 4 pounds. Unhandled 1 dozen in box. With No. 1 oval handles, ½ dozen in box.
Price..... per dozen

Write us Your Requirements for Goods Not Listed.

For Nearly a Century the Store of Service.

HATCHETS AND AXES

No. 100 C. HAMMOND BRAND BARREL HATCHETS

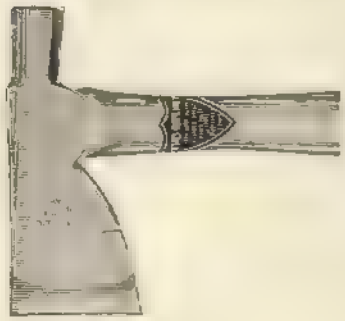


Fig. 41262A

All steel, full polished.

These hatchets have extra white hickory handles.

Cuts 2½-inch. Weighs 1 pound, 2 ounces

Price . . . . . each **1 50**

Weight given does not include handle.

HOUSE AXES

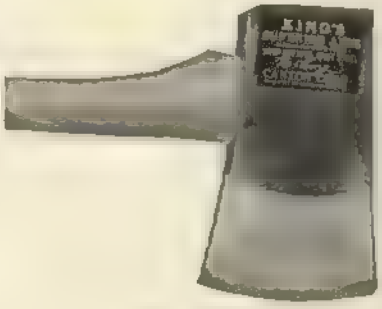


Fig. 41262B

Length of handle 19 inches.

Weight, including handle, about 2¼ pounds.

Price . . . . . each **1.50**

No. 160 C. HAMMOND BRAND HUNTERS' AXES

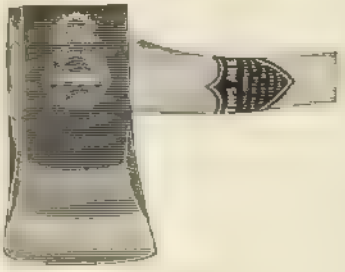


Fig. 41262C

Gold bronze finish.

Fitted with extra white hickory curved handles

No.	Size	Weight Lb	Weight Oz.	Cuts Inches	Price Each
160	00	1	12	3½	**1.00**
161	0	2	..	3¾	**1.05**
162	1	2	8	4	**1.10**

BOY SCOUT AXES

Fig. 41262D

Highest grade. Inserted crucible steel bit, insuring a thin, strong, keen cutting edge.

Price, with Sheath . . each **1.35**
" without Sheath . " **1.10**

For Nearly a Century the Store of Service.

BROAD AXES AND ADZES

CANADIAN PATTERN BROAD AXE

Fig. 11350A

WESTERN PATTERN BROAD AXE

Fig. 11350B

SHIP PATTERN BROAD AXE

Fig. 11350C

CANADA, BAKER, OR WISCONSIN PATTERN BROAD AXES

Price, Assorted	5 to 7 or All 6 Pounds	per dozen	....
" "	6 " 7, 6½ to 7½, or All 6½ or 7 Pounds	"	....
" "	7 " 8, 7½ " 8½, 7 to 9 or All 7½ or 8 Pounds	"	....
" "	8 " 9, or all 8½ to 9 Pounds	"	.....
" "	9 " 11, " " 9½ to 10 Pounds	"	....
" "	10 " 11, " " 11 Pounds	"	....

WESTERN PENNSYLVANIA, OR NEW ORLEANS PATTERN BROAD AXES

Price, Assorted	5 to 6½, 6 to 7½, 6½ to 7½, 6 to 8 or All 5 or 5½ Lbs.	per doz.	....
" "	7 " 8, 7½ to 8½, 7 to 9 or All 6, 6½, 7, 7½ or 8 "	"	.....
" "	8 " 9, 8½ to 9½, 8 to 10, or All 8½, 9, 9½ or 10 "	"	.....

SHIP, NEW ENGLAND OR OHIO PATTERN (DOUBLE BEVEL) BROAD AXES

Price, Ship Carpenter, 5 to 5½ Pounds	per dozen	....
" New England, or Ohio, 5, 5½, 6, 6½, or 7 Pounds	"	....

CARPENTERS' ADZES

HALF HEAD

Fig. 11350D

FULL HEAD

Fig. 11350E

RAILROAD ADZE

Fig. 11350F

SHIP ADZE

Fig. 11350G

ADZES

Price	Carpenters' Adzes, Half or Full Head, 3 to 4½-inch Cut	per dozen	....
"	Railroad Adzes, Half or Full Head, 5 to 5½-inch Cut	"	.....
"	Ship Adzes, Spur Head, 4 to 4½-inch Cut	"	.....
" " "	with Lip, Spur Head, 4½ to 5½-inch Cut	"	.....

Window Displays That Say "Come in"

Kelly-Springfield Tire Company Offers Unusual Window Dressing Service to Dealers

Artistic Backgrounds Furnished Monthly. Tires Featured, But Various Accessories Can be Displayed Also

By N. J. LEIGH

WELL-PLANNED windows do three things:

1. Associate a dealer with the lines of merchandise for sale. If you have the agency for certain products, a good display definitely stamps your store as the place where these may be found.

2. Impress people with the character of the shop behind the windows. Most prospective buyers have only this way of judging a store. A progressive up-to-date appearance immediately creates a favorable impression.

3. Furnish an economical form of advertising. To test the pulling power of a good trim devote a window to a single product for a week. Utilize the manufacturer's material and amplify it with setups of boxes and original ideas. Dealers who have tried this, report an immediate sales spurt on the product so tested.

Every effort must be strained to make sales today, yet the value of good window displays is often slighted by garage men and accessory dealers.

The Kelly-Springfield is a monthly window display service issued only to dealers who subscribe for the year. It consists of.

1. A handsome, permanent three-panel background substantially made of wood with a removable back in each panel.

2. Eight sets of posters to fit the frames, richly lithographed in eight or nine colors, which are issued monthly.

3. A Suggestion Sheet containing at least four photographs of windows arranged by William Gordon O'Keefe, with details as to how they may be easily duplicated. They display not only Kelly-Tires, but also other standard lines of accessories. The accompanying illustrations show a few of these displays.

This service makes available to dealers the services of a highly trained corps of advertising men who have specialized in window display. It makes it possible for any man with a little effort to arrange windows that attract the transient tourists and impress prospective customers.

Motorists expect garages and accessory stores handling a high grade line to be of the up-to-date progressive type. This manufacturer purposes to help fulfill this expectation by working with dealers toward the end of uniformly good window trims.

J. Roy McLennan, in charge of Dealer Service, well expresses the broad, far-seeing policy of the Kelly-Springfield Tire Company in the following excerpt from one of the suggestion sheets:

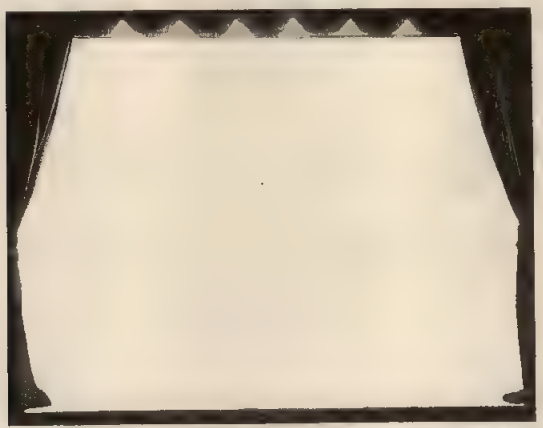
"Our contact with manufacturers of standard lines of automobile accessories has shown that many dealers handling other equipment do not take advantage of much excellent display material offered free.

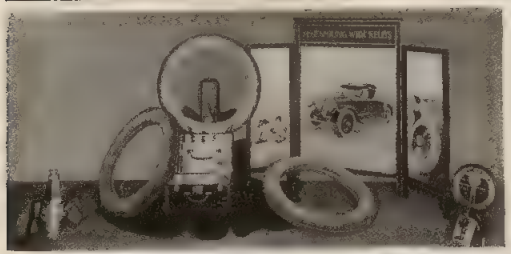
"It is good merchandising policy to make the most of your window space. Communicate with these concerns and see what they offer. Usually their material can be appropriately worked in with a good Kelly display, as shown in these illustrations."

To help get the viewpoint of those using the service they say:

"We feel that our subscribers for the past year should have a voice in moulding our 1922 policy. May we ask, therefore, that you write us if you have suggestions which in your opinion would make the service more valuable."

The window dressing phase of retail selling is rapidly assuming a new importance. The alert dealer will be quick to realize it. Window displays must say, "Come in."





Above: An Artistic Framing Which Can be Used With a Large Number of Displays.
Below: Samples of Windows in Which Tires and Several Standard Lines of Accessories Are Featured

These Illustrations, Together With Those Shown on the Opposite Page, Form Part of the Kelly-Springfield Window Display Service for Dealers The Displays Shown Here Are Well Balanced and Attractive, and Could be Used as the Basis for Others Equally Attractive.

For Nearly a Century the Store of Service.

MOSSBERG SOCKET WRENCH SETS

No. 6 SOCKET WRENCH SETS

For automobiles, motor boats, gas engines, etc. The No. 310 folding handle is useful in places difficult of access. In wooden box containing No. 310 offset handle, 5½ inches high; 8 sizes of hexagon pressed steel sockets; 11/32, 13/32, 7/16, [illegible] 29/32 and 1 inch, also 1 special spark plug socket as follows, 7/8-inch, 4 inches long.

Price. . . . . per set 3.80

No. 7 SOCKET WRENCH SETS

For use on all sorts of motor work. In wooden case containing 1 No. 320 offset socket wrench handle; 1 No. 340 socket wrench handle, and 15 hexagon rustproof properly hardened, pressed steel sockets, fitting standard sizes of screws, nuts and bolts. Sizes of sockets 11/32, 13/32, 15/32, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16 and 1 1/32-inch. One 13/16-inch spark plug socket 4 inches long.

Price. 5 55

No. 9 SOCKET WRENCH SETS

An ideal repair and assembly set of socket wrenches for factory work.

Packed in wooden box containing: 1 ratchet handle, No. 350, 1 extension bar [illegible] No. 1, 1 Universal joint No. 330, [illegible] working up to 20 rustproof properly hardened pressed steel sockets, as follows Hexagon sockets, [illegible] 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, 1 1/4, 1 5/16 and 1 3/8-inch; square sockets, 11/32, 7/16, 1/2, 9/16, 5/8, 1 1/16 and 1 3/8-inch.

Price. . . . . per set 11.10

No. 10 SOCKET WRENCH SETS

An efficient owners' set, and for use in automobile repair and garage equipment

Packed in wood box containing: One No. 350 ratchet handle; one No. 351 extension bar, 9½ inches long; one No. 336 Universal joint; double-end offset screwdriver; 21 sizes of hexagon, pressed steel sockets 1/4, 1/4, 13/32, 7/16, 15/32, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, 1 1/4, 1 5/16, 1 3/8, and two special spark plug sockets [illegible] and 13/16 inches, 4 inches long. Sockets are Parker rustproof finish

Price . . . . . per set 11 10

MOSSBERG WRENCH SETS

No. 13 MOSSBERG SOCKET WRENCH SETS

This set is arranged to contain all important hexagon sockets, including spark plug socket, extension bar and offset No. 355 ratchet handle

For all classes of hexagon wrench users.

In wooden case containing: One ratchet socket wrench handle, No. 355; 1 extension tube, No. 351, 9½ inches long; 15 rust, proof thoroughly hardened, pressed steel guaranteed sockets, with standard openings as follows: 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/32 and 1 1/16 inches; also one 13/16-inch hexagon spark plug socket, 4 inches long.

Price ..... per set **5.50**

No. 16 MOSSBERG SOCKET WRENCH SETS

For use on all smaller cars. Furnished in durable wood case containing: One No. 350 handle; one tubular extension bar; one universal joint; one offset screwdriver and fourteen sizes of guaranteed pressed steel sockets, hexagon and square: 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, inches hexagon and [illegible] and 1 1/16 and square, also one spark plug socket, 7/8 inch

Price ..... per set **8 25**

AUTO CLE WRENCH SETS

The large Auto Cle Set consists of the following: One take-down reversible handle, nickel-plated, one swivel or universal joint; one 9½-inch extension bar, one 1¾-inch extension bar one double-end offset screwdriver 27 Parker rust proof hexagon sockets as follows 5/16, 11/32, 3/8, 13/32, 7/16, 15/32, 1/2, 17/32, 9/16, 19/32, 5/8, 21/32, 11/16, 23/32, 3/4, 25/32, 13/16, 27/32, 7/8, 29/32, 15/16, 31/32, 1, 1 1/32, 1 1/16, 1 1/32, inches 3 square sockets as follows 1/4, 5/16, 3/8 inch and one 7/8 inch hexagon spark plug socket 4 inches long

Price ..... per set **13 35**

No. 30 SOCKET WRENCH SETS

The No. 30 set contains the following:

Ratchet socket wrench.

Universal joint, to turn round a corner.

Extension tube, to get into the heart of things

Double end offset screwdriver

Ten pressed steel sockets, heaviest of their kind). Sizes in the hexagon 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, and 15/16 inch; Size in the square, 1/2 inch. spark plug socket, 31/32 inch, to fit the Champion X spark plug now in use

Price ..... per set **5.50**

Write us Your Requirements for Goods Not Listed.

For Nearly a Century the Store of Service.

MOSSBERG WRENCH SETS, ETC.

No. 19 WRENCH SETS

LARGE SERIES, FOR MOTOR TRUCKS

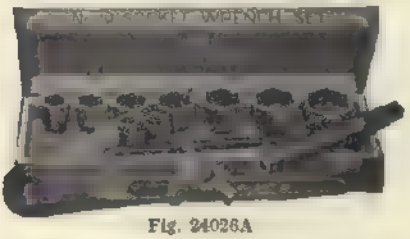


Fig. 24026A

Packed in wooden case containing One No. 357 reversible ratchet handle, 18 inches long; 1 No. 324 offset handle, 15 inches long; 1 No. 348 extension tube, 10 inches long; 1 No. 337 universal joint; 1 No. 338 connection bushing for use with small series sockets; 9 large series pressed steel hexagon sockets.

Price ..... per set 22.25

No. 20 WRENCH SETS

LARGE SERIES

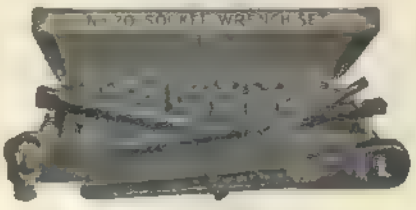


Fig. 24026B

Packed in wooden box containing One No. 357 reversible handle, 18 inches long; 1 No. 324 offset handle; 1 No. 348 10-inch extension tube; 1 No. 349 18-inch extension tube; 1 No. 337 universal joint; 1 No. 338 connection bushing for use with small series sockets; 15 large series pressed steel sockets.

Price..... per set 27 80

No. 357 RATCHET SOCKET WRENCH HANDLES

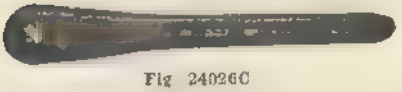


Fig. 24026C

For use with large series sockets and parts.

Price, 18 Inches Long. .. each 11.10

No. 350 RATCHET SOCKET WRENCH HANDLES

SMALL SERIES

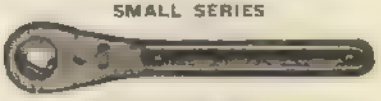


Fig. 24026D

Reversible ratchet all steel socket wrench handle. Length, 10 inches.

Price . . . . each 2.75

No. 355 RATCHET SOCKET WRENCH HANDLES

SMALL SERIES

Fig. 24026E

Socket shank fits square opening and is firmly held by a tension spring. Length, 8 inches.

Price .. .... each 1.35

PRESSED STEEL SOCKETS

SMALL SERIES

Fig. 24026F

Hexagon sizes 5/16, 11/32, 3/8, 13/32, 7/16, 15/32, 1/2, 17/32, 9/16, 19/32, 5/8, 21/32, 11/16, 23/32, 3/4, 25/32, 13/16, 27/32, 7/8, 29/32, 15/16, 31/32, 1, 1 1/32, 1 1/16, 1 1/8, and 1 3/16 inches.

Square sizes 1/4, 13/32, 7/16, 15/32, 1/2, 17/32, 9/16, 19/32, 5/8, 21/32, 11/16, 23/32, 3/4, 1 1/32, 1 1/16, 1 1/8, 1 3/16 inches.

Price, in Lots of Ten . each .17

" Less than Ten Lots " 35

LARGE SERIES

Fig. 24026G

Hexagon sizes 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, 1 3/16, 1 1/4, 1 5/16, 1 3/8, 1 7/16, 1 1/2, 1 9/16, 1 5/8, 1 11/16, 1 3/4, 1 13/16, 1 7/8, 1 15/16, 2, 2 1/16, and 2 1/8 inches.

Square sizes 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, 1 3/16, 1 1/4, 1 5/16, 1 3/8, 1 7/16, 1 1/2, and 1 5/8 inches.

Price, in Lots of Ten . each .60

" Less than Ten Lots " 1 10

PILLIOD PORTABLE TOOL CHESTS

Fig. 39643A

Nos. 15 AND 25

Built in two sizes and two finishes. Substantially built for tool collections of medium size. Solid brass hardware, felt lined draws. Pilliod special double lock drawer joints used on all cases listed on this page. All hardware attached with rivets.

No.	Outside Dimensions, Inches Depth	Height	Length	Wt Lbs.	Price, Each Oak	Leather
15	8	10½	16½	15	14 50	14.50
25	8½	11	18	18	15.00	15.00

Nos. 35 AND 36

Quartered oak and imitation leather. Especially designed for tools 18 inches or longer. The drawer arrangement gives ample space for a large number of large and small tools, and a place to arrange all systematically. A most convenient case for a larger number of tools of all sizes.

No	Outside Dimensions, Inches Depth	Height	Length	Wt. Lbs.	Price Each Oak	Leather
35	9½	12	20	23	17 00	17 00
36	9½	12	26	25	18.50	18 50

Fig. 39643B

Fig. 39643C

Nos. 50, 55 AND 56

For machinists and auto mechanics, built in three sizes and two finishes. Drawer arrangement the same as No. 35, excepting the lower drawer is left out, the till on the top taking its place. The door of this case locks automatically when top is closed. Hook bolt lock used on this case. Preferred by those who wish to carry the heavier tools in the top of the case.

No	Outside Dimensions, Inches Depth	Height	Length	Wt Lbs.	Price, Each Oak	Leather
50	8½	12⅝	16½	16½	19.00	19.00
55	8½	12⅝	20	20	21.00	21 00
56	8½	12½	26	26	25 00	25.06

Write us Your Requirements for Goods Not Listed.

For Nearly a Century the Store of Service.

TOOL CHESTS

Mechanics' Tool Chest

Fig. 40089A

Machinists' Chest

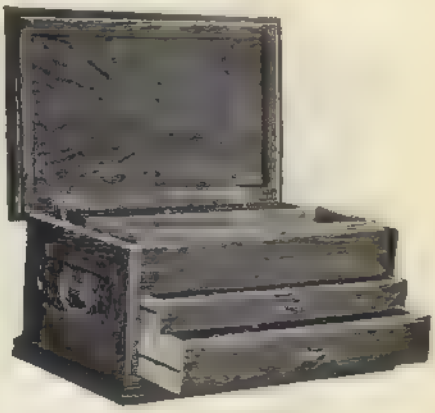


Fig. 40089B

MECHANICS' TOOL CHESTS

These chests are made of chestnut, finished in oak stain.

No.	Length Inches	Width Inches	Depth Inches	Tray	Price Each
200	15	6¼	5	Movable	4 00
210	16	7 3/8	5½		4.50
220	18	8 3/8	6		5 00
230	20	9 3/8	7		5 50
240	22	10½	8½	Two, Sliding	8.00
250	25	12½	9¼	"	9.00
260	28	15	14	Sliding	35.00
270	33	18	16	"	40.00

SHOULDER CHESTS

Made of selected chestnut finely finished

Price, No. 19, 25x8x8 Inches. Inside Dimensions						each	8.00
" " 20	33x8x8	"	"	"		"	8.50
" " 25	33x8x8	"	"	"		"	12.00

MACHINISTS' CHESTS

Made of selected chestnut, trimmed with good mouldings. Brass drawer pulls, good lock, drop handles and nicely finished.

No. 27C WITH TWO DRAWERS

Receptacle under cover measures 18x10x2½ inches. First drawer measures 17x8¾x1¼ inches. Second drawer measures 17x8¾x2½ inches.

Price ..... each 10 00

No. 29C WITH THREE DRAWERS

Receptacle under cover 21x11⅝x3⅝ inches; sliding tray under cover, 20x6¼x1¾ inches. First drawer 20x10½x1 inch; second drawer, 20x10½x1½ inches; third drawer, 20x10½x2½ inches.

Price ..... each 15.00

No. 30C WITH THREE DRAWERS

Receptacle under cover, 27x12x3¼ inches, sliding tray under cover, 26x7x1¼ inches; first drawer 26x11¾x1 inch; second drawer, 26x10¾x1⅜ inches; third drawers 26x10¾x2½ inches.

Price ..... each 20.00

MANUAL TRAINING BENCHES

PERFECTION MODEL BENCHES

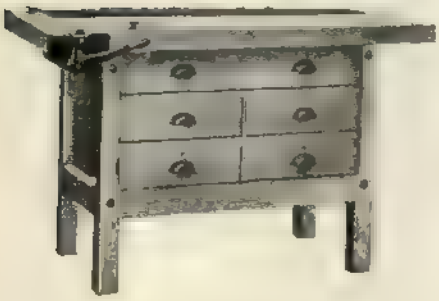


Fig. 40978A

The material used in the construction of these benches consists of the most durable Michigan hardwoods, thoroughly seasoned and kiln dried to prevent warping and loosening.

The long bolster and top clamping feature is made exceptionally efficient by carrying the series of holes across the entire width of the top. These, fitted with metal dogs, offer a very efficient clamping combination for work on top of these benches. Note the manner in which these bolsters are grooved into the main portion of the top and anchored to it by two special countersunk bolts.

Fitted with No. 3 or 10 vise, metal dog and malleable bench stop. Weight, 215 pounds.

DIMENSIONS.—32 inches high. Top, 52 inches long, 22 inches wide, 2¼ inches thick. Tool recess, 7 inches wide. General tool drawer, 32 inches long, 5 inches high, 17 inches deep. Private lockers 15½ inches long, 5 inches high, 17 inches deep. Legs, 2½x3 inches. Rails, 3½ inches wide.

Price 40 00

DENVER MODEL BENCHES

The tongue and grooved joints in the top are re-enforced by heavy ½-inch countersunk flush head draw-bolts permanently safeguarding against every extreme moisture and service condition.

The working portion of the top consists of the most serviceable hardwood strips, 1¾ inches wide, glued under heavy pressure, finished 2¼ inches thick or over with edge grain surface, re-enforced with draw bolts.

A wide bolster is attached to each end of the top with a deep tongue and groove, also solidly held by long, heavy draw-bolts. These bolts are flush with the surface to prevent edged tools becoming injured on them.

Fig. 40978B

DIMENSIONS. 32 inches high, unless otherwise ordered. Top 42 inches long, 22 inches wide, 2¼ inches thick. Tool recess 7 inches wide. Tool-rack 30 inches long. Drawer, 5½ inches high, 22 inches long, 19 inches deep. Fitted with bronze pulls.

Price, without Drawer . . . . . each 22 00
" with Drawer . . . . . " 25 00

Write us Your Requirements for Goods Not Listed.

PISTOLS AND REVOLVERS

AUTOMATIC HAMMERLESS PISTOLS

POCKET MODEL

Fig. 40434A

The action of this pistol is automatic except that the trigger must be pulled to fire each shot; continued discharge will not result from one pull of the trigger. There are two indicators showing when the hammer is cocked, and there are two safeties, either of which is absolutely positive, one of which is automatic.

Caliber	Cap. of Magazine Shots	Lgth. Bbl. In.	Length Over All In.	Weight Ounces	Price Each
25	6	2	4½	13	20.50
32	8	3¾	6¾	23	25 00
380	7	3¾	6¾	23	25 00

Blued finish

AUTOMATIC .22 CALIBER PISTOLS

TARGET MODEL

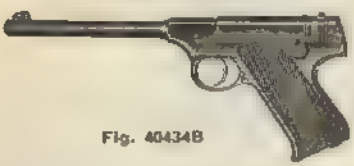


Fig. 40434B

This model has proven most practical and popular with shooters, sportsmen, trappers, and others desiring a high-grade automatic pistol adapted for the economical and successful attained .22 caliber long rifle cartridge.

Accidental discharge is absolutely impossible with the Colt automatic pistol.

Caliber	Cap. of Magazine Shots	Lgth. Bbl. In.	Length Over All In.	Weight Ounces	Price Each
22	10	6½	10½	28	35 00

Blued finish

POLICE POSITIVE DOUBLE ACTION REVOLVERS

Fig. 40434C

Has jointless solid frame. Simultaneous ejection. Equipped with the Colt positive Lock which is an absolute safeguard against accidental discharge.

Light, compact, high velocity and penetration, and very accurate

Caliber	Number of Shots	Lgth. Bbl. In.	Length Over All In.	Weight Ounces	Price Each
.32	6	4	8¼	20	31 00
.38	6	4	8¼	20	31 00

Blued finish.

POLICE POSITIVE SPECIAL DOUBLE ACTION REVOLVERS

Caliber	Number of Shots	Lgth. Bbl. In.	Length Over All In.	Weight Ounces	Price Each
.38	6	4	8½	22	32 50

Blued finish.

ARMY SPECIAL DOUBLE ACTION REVOLVERS

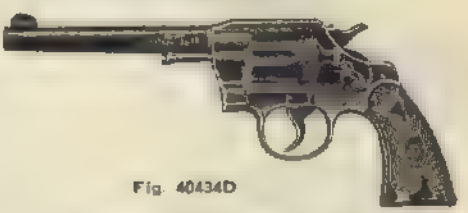


Fig. 40434D

Jointless solid frame. Simultaneous ejection. Medium in size and weight. Perfectly safe. The Colt Positive Lock removes liability of accidental discharge.

Caliber	Number of Shots	Lgth. Bbl. In.	Length Over All In.	Weight Ounces	Price Each
38	6	4	9¼	32	34 00
38	6	6	11¼	35	34 00

Blued finish

RIFLES

MODEL 1914 .22 SAVAGE REPEATERS

Fig. 40300A

The .22 Savage Repeater Model 1914 is of the trombone type, having tubular magazine and is constructed to handle .22 short, long, and long rifle cartridges interchangeably without change of mechanism. The magazine will hold twenty .22 shorts, or seventeen .22 longs, or fifteen .22 long rifle cartridges.

The arm is hammerless with solid breech, solid top and side ejection. All the moving parts are enclosed within the receiver. The safety is of the shot gun type and is located on top of the tang, immediately in front of the grip. The action is positive, short, quick and easily operated.

24-inch octagon barrel, tube magazine, extra long slide handle, extra full pistol grip, corrugated steel butt plate. Weight about $5\frac{3}{4}$ pounds. Chambered to shoot .22 short, .22 long and .22 long rifle.

Price.....each **28.50**

MODEL 1904 .22 SAVAGE JUNIORS

Fig. 40300B

The .22 Savage single shot rifle model 1904 is a combination to possessing the greatest possible accuracy, reliability and durability in the smallest bulk and lightest weight, and at the lowest price. The rifle has bolt action mechanism of the military type.

It is chambered for the .22 long rifle cartridge, but .22 shorts or .22 longs may also be used. For the most accurate uniform and satisfactory results the .22 long rifle Lesmok or semi-smokeless cartridges should be used exclusively. Opening the action of the rifle automatically ejects the fired shell, and the rifle may be taken down or unloaded in a moment by unscrewing the take-down screw which attaches the stock to the barrel. The breech bolt of the rifle may be removed entirely without using tools by opening the action to its fullest extent, and then holding back the trigger and pulling the breech bolt to the rear out of the bolt housing.

18-inch round barrel, shotgun butt and steel butt-plate, scroll trigger guard, blued steel bead front and adjustable flat top rear sights, take-down style. Weight about 3 pounds.

Price.....each **9.75**

Write us Your Requirements for Goods Not Listed.

SAVAGE REPEATING RIFLES

MODEL 1899 .250-3000

Fig. 40299A

The .250-3000 Savage is a light six shot hammerless repeating arm possessing strength, simplicity and convenience. The original Savage solid breech assures absolute safety, and the locking of the entire rear end of the breech bolt against the solid metal of the receiver affords tremendous strength, the greatest security even with the pressures of the most modern cartridges of the highest concentration.

It is recommended for the largest game, having killed lion, rhino, hippo, buffalo and elephant.

Its velocity—3100 feet per second—is 300 feet higher than that of the New Springfield U. S. service rifle. This tremendous velocity means so flat a trajectory that game may be hit in a vital spot at the longest sporting ranges without adjustment of sights and, without danger of over or under shooting. Its 200-yard trajectory is more than 1 inch lower than the New Springfield's. Its 500-yard trajectory is nearly 5 inches lower.

Made in take-down pattern only, with checked extra full pistol grip stock and fore-arm, white metal bead front and flat top sporting rear sight, checked trigger and corrugated steel butt-plate. 22-inch round barrel. Weight, 7 pounds.

Price ..... each 60 00

MODEL 1899 22HI-POWER

Fig. 40299B

This rifle shoots a 70-grain soft nose Spitzer-point bullet at a velocity of 2800 feet per second. Its point blank range is over 200 yards, and its flat trajectory combined with great accuracy and practically no recoil, makes it most effective for use on moving game.

Although the rifle has been used widely and with greatest success on the biggest and most dangerous game, it is not recommended for animals larger than deer or black bear. It is specially adapted for shooting wolves, coyotes, foxes, etc., at long and unknown ranges, and its superiority for this purpose has made it the most choice of practically all hunters of predatory animals. It is especially popular with rangers of the United States Forest Service, government hunters on the National Forest Reserves, etc.

Take-down, 20-inch specially tempered round barrel. Corrugated steel shotgun butt-plate. Weight, 6 pounds 8 ounces.

Price ..... each 55 00

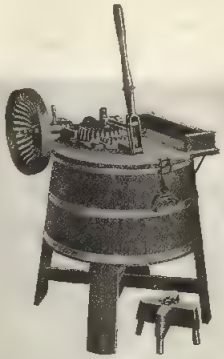
EXTRA BARRELS

Price, 410 Gauge Shotgun Barrel for All Models 1899 Take-down Savage Rifles ..... each 12.00

WASHING MACHINES.

HAND

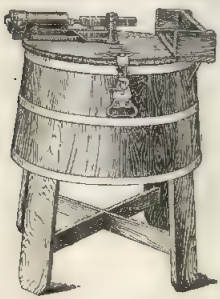
NO. 214 Motor High Speed Washer, weight 80 lbs. each ..... Net each $34 00
ONE IN A CRATE.



POWER.

NO. 216 "Motor" Power Washer, weight 110 lbs each Net each $46.00
ONE IN A CRATE.

STERLING WATER MOTOR.



Tub made of cypress, has large overlapping lid, giving big opening so that the operator has free access in putting in or taking out the clothes, the tub legs are intergal with the body of the tub and have cross pieces which give increased strength below the tub.

The motor has two and one-half (2½) inch bore by three (3) inch stroke, the cylinder being bored and reamed true to size. This feature along with the extra large valves and water passages makes it more powerful and faster in operation. The large size valves relieve back pressure and increases the available power applied to the load so that the Sterling motor will, with a reasonable flow of water, operate and give good satisfaction on a pressure from eighteen (18) pounds up.

NO. 300—Weight 75 lbs. each ..... Net each $48 00
ONE IN A CRATE

THE RAPID HAND WASHER.

Makes clothes washing easy.

Just the thing for washing curtains and other delicate fabrics.

The heavy part of the washing is quickly done by placing the clothes or fabric to be washed in a tub of water or suds (the water can be boiling hot) and agitating the water by a vertical motion of the washer. Fifteen minutes time to a tub of clothes. This forces the water through the fabric, and removes the dirt.

NO. 16—Height without handle 8 in., diameter of bottom 8 in., heavy bright IXL tin plate, with wood handle, weight 18 lbs per dozen ..... Net per doz $15.00

A handsome aluminized metal display stand holding six washers furnished free with each dozen.

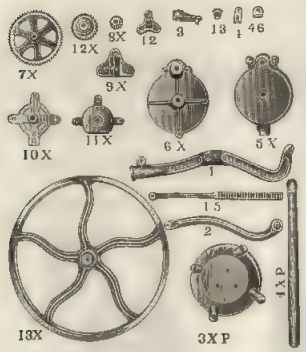
ONE DOZEN IN A CRATE

REPAIR PARTS FOR "PAGOMA" WASHERS.

ALWAYS USE NUMBER AND NAME WHEN ORDERING.

For All "Pagoma" Peg Dolly Type Washers Only.

HAND.

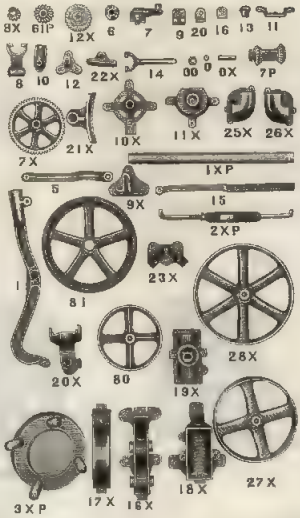


Number	Name of Part	Weight	Net each
1	Malleable Lever	3 lb.	$3.00
2	Malleable Pitman	1 lb. 2 oz.	1.00
3	Malleable Crank	8 oz.	1.50
*4	Double Joint	3 oz.	.60
*13	Button	3 oz.	.60
46	Adjusting Lug	2 oz.	.60
*5X	Gear Case	3 lb. 8 oz.	3.00
*6X	Gear Case Lid	3 lb. 8 oz.	3.00
7X	60 Tooth Gear	2 lb. 4 oz.	3 00
8X	12 Tooth Gear	4 oz.	1.50
9X	Lever Bracket	1 lb. 4 oz.	1.00
*10X	Spider	1 lb.	1.00
*11X	Cap	1 lb.	1.00
12X	Dolly Gear	1 lb.	1.50
*13X	Balance Wheel	13 lb.	4.00
15	Rack Bar	1 lb. 4 oz.	1.50
3XP	Dolly		2.00
4XP	Wood Handle		.60
	Wringer Boards		1.40
	Casters	per set	1.50
	Side Handles		.30
	Lid Fasteners		.30
	Hinges		.50

Nos. Prefixed by a are F O. B Factory.

Our Minimum Charge for Repairs 20 Cents.

POWER.

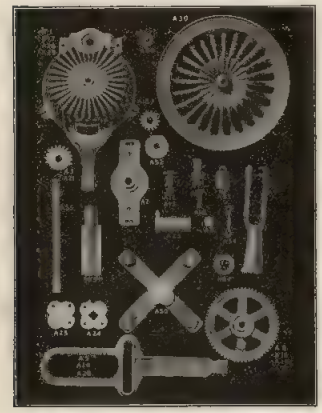


Number	Name of Part	Weight	Net each
1	Lever	3 lb.	$2.50
*5	Connecting Rod	1 lb.	1.00
6	Clutch	6 oz.	1.00
7	Clutch Crank	12 oz.	1.50
8	Shifter Fork	8 oz.	.60
9	Shifter Bearing	6 oz.	.60
*10	Shifter	8 oz.	.60
*11	Ratch	3 oz.	.60
*12	Dolly Shaft Holder	6 oz.	.90
*13	Button	3 oz.	.60
14	Shifter for Double Mitre	9 oz.	.60
15	Rack Bar	1 lb. 4 oz.	1.50
16	Adjusting Lug	2 oz.	.60
7X	60 Tooth Gear	2 lb. 4 oz.	3.00
8X	12 Tooth Gear	4 oz.	1.50
9X	Lever Bracket	1 lb. 4 oz.	1.00
*10X	Spider	1 lb.	1.00
*11X	Cap	1 lb.	1.00
*12X	Dol y Gear	1 lb.	1.50
*16X	Gear Case	6 lb.	4.00
*17X	Gear Case Lid	2 lb.	1.50
*18X	Case for Wringer Gear	6 lb.	3.00
*19X	Case Lid Wringer Gear	2 lb.	1.50
*20X	Revolving Arm	3 lb. 8 oz.	3.00
*21X	Pipe Bracket	2 lb. 2 oz.	1.50
22X	Power Bearing	1 lb.	.60
*28X	Corner Bearing	2 lb. 6 oz.	1.50
*25 and 26X	Wringer Shields	1 lb. 5 oz.	1.00
*27X	10 in. Pulley	7 lb. 10 oz.	4.00
*28X	12 in. Pulley	10 lb. 3 oz.	5.00
*80	8 in. Pulley	3 lb. 2 oz.	2.00
*81	Grooved Pulley	5 lb.	4.00
*1XP	Pipe	2 lb.	1 50
*2XP	Turnbuckle		2.00
3XP	Dolly		2.00
7P	Double Mitre	1 lb. 4 oz.	2.50
61P	Mitre Gear	7 oz.	1.50

REPAIR LIST AND PRICES.

ALWAYS USE NUMBER AND NAME OF CASTING WHEN ORDERING.

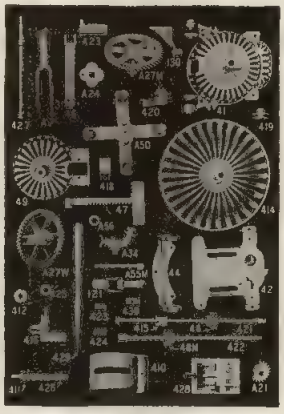
THE "MOTOR" HIGH SPEED WASHING MACHINE.



Always use Number and Name When Ordering.

	Name	Actual Weight.		Price
*A 1	—Main casting for A6	6 lb.	8 oz.	$3 60
*A17	—Main casting for A16	6	8	3 00
*A26	—Main casting with ⅞ in. hole for A19X	6	4	3 00
A29	Main casting with ⅞ in. threaded hole for A27.	6	4	4 00
*A 4	—Balance wheel, 14 teeth	10	7	2 00
*A15	—Balance wheel, 13 teeth	9	7	2 00
A18X	Balance wheel, pinion spiral cut, 16 teeth		7	1 40
A30	Balance wheel	8	11	5 50
A28	—Rack for A29	3	12	2 80
A19X	Main drive gear, 64 teeth, spiral cut	2	8	2 00
A27	Main drive gear, 64 teeth, spiral cut, ⅞ in. hole	2	9	2 50
A 7	—Wood handle castings	1	15	1 20
A50	Wing Dolly	3	1	3.00
A 2	—Dasher post cover castings	1	2	1 20
A21	Dasher post pinion interchangeable	1		1 00
A 8	—Drive gear roller		2	1 00
A13	—Drive gear stud nut ⅞ in. size for A6, A16, A19X		4	80
A51	Drive gear stud and nut ⅞ in. size for A27		3	1 00
A14	—Drive gear roller stud		1	1 00
4	Galvanized dasher post collar		4	.80
94	Galvanized dasher post	1	3	1 00
A52	—Steel washer, 2¼ in. for A51		2	.60
A23	—Wing dolly center casting		11	60
A24	—Dolly top plate, square hole		2	40
A25	—Dolly bottom plate		2	40
A53	Cover spring		4	1 00
A54	—Cover spring fastener		1	40
A55	—Square end dolly shaft	1	2	1 00
A56	—Ball bearing case		1	80
Wringer Boards				1 20
Casters				Set 1 40
Side Handles				50
Cover Hinges				80
Cover Fasteners				50
A34	Drain Faucet			1 00
A12	—Drive Gear Stud			40
Complete set of castings				24.00

MOTOR POWER WASHING MACHINE.



No.	Name	Weight		Price
A23	—Dolly center casting	10	oz	$0 60
A24	Dolly plate	2		40
A7	—Handle socket	1 lb.	12	1 20
*A27M	Main drive gear (48 teeth and shaft)	3	8	3 00
A50	—Wing dolly	2	15	3 00
A34	—Faucet	1		1.00
A56	—Ball bearing		1	.80
*A55M	—Dasher post shaft		10	1.00
A21	—Dasher post pinion		12	1.00
*41	—Main frame	9	12	5 00
*42	—Bottom plate	4		2 40
*44	—Back hinge	2	5	1 60
*46	—Connecting rod	1	1	1.00
*47	—Rack	2		2 40
*48	—Pinion (12 teeth)		8	1 00
*414	—Balance wheel	9	11	2. 50
*415	—Clutch		4	.40
*416	—Clutch release	1	3	80
*418	—Guard for No. 48		7	60
*421	Main shaft	2	5	2 80
*423	—Bushing		2	00
*424	—Clutch spring		1	60
*425	—Combination bearing		2	1.00
*429	Round handle		7	50
*121	—Cover lock		5	1 00

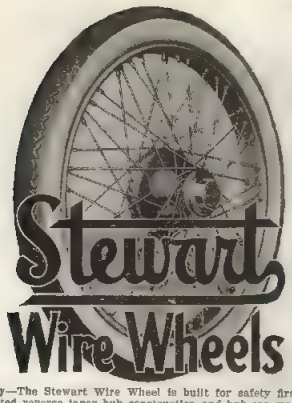
Nos. Prefixed by a * are F. O. B. Factory.

Our Minimum Charge for Repairs 20 Cents.

"PAGOMA"—Perfect and guaranteed unconditionally

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE.

WIRE WHEELS.



Safety—The Stewart Wire Wheel is built for safety first. With the patented reverse taper hub construction and hub-cap wedges, the wheel positively can not come off by accident. All side thrust borne by strong reverse tapers. No strain on hub-cap

Comfort—By reason of their springy resiliency, they absorb the shocks of the road more readily, adding very materially to the pleasure and comfort with which you can use your **FORD** for either country or city driving

Economy—Stewart Wire Wheels are a real economy. They will reduce the wear and tear of the road to a minimum, so that your tires will last longer and you will get more mileage and thus use less gasoline—these two features alone represent considerable savings in expense.

Convenience—Stewart Wire Wheels can be quickly put on or removed whenever changes are necessary, and the element of time and the ease with which the change can be made is a wonderful convenience on the road. There is every advantage claimed for any other wire wheels, plus the absolute assurance of safety.

Guarantee—Every set of Stewart Wire Wheels and parts is guaranteed for one year from date of sale. Should the material or workmanship prove defective, or should any breakage or damage (except to enamel) be sustained in an unavoidable accident during that period, the wheels or parts thereof will be replaced by us without charge to the original retail purchaser

SPECIFICATIONS.

Rims—30x3½ Clincher or Standard made to meet the requirements of S. A. E.

Spokes—Liquor high grade drawn steel Frames of the better grade cars and trucks are made from drawn steel

Hub Caps—Made from special Sterling Alloy, guaranteed non-corrosive and rust-proof.

Hub Shell—Pressed from ⅜ inch best grade deep drawn steel, and reinforced by ⅛ inch steel insert.

Inner Hubs—Cast from our own special composition, treated to give the casting many times the strength that is necessary. The same casting is used for all the heavier and higher grade cars.

Wedge Keys—Made from best quality ¼ inch steel plate, drawn, formed, treated and machined

Colors—Black, white, cream, green, red, blue and khaki.

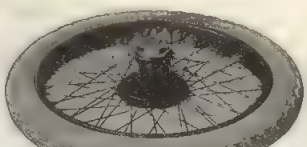
A set of Stewart Quick Detachable Wire Wheels includes 5 wheels; 4 inner hubs, serving to build up front and rear axles so that all wheels are interchongeable (inner hubs—front and rear—are machined so as to use bearings taken from wooden wheels); 4 hub caps and hub cap wrench. Crated for shipment.

	Net Per Set
NO. 25—White enameled, for **FORD** cars	$118.12
NO. 26—Cream enameled, for **FORD** cars	118.12
NO. 27—Tire Carrier for carrying extra wheel in rear of **FORD Touring** car	15.00
NO. 28—Tire Carrier for carrying extra wheel in rear of **FORD Roadster** car	15.00

F. O. B. OMAHA.

NO. 29—Set of five wire wheels for Chevrolet 490	133.90
NO. 30—Set of five wire wheels for **Overland "4."** Specify color wanted	133.90

F. O. B. FRANKFORT, IND.



"PASCO."

Due to their light weight, their resiliency and all steel construction, PASCO Wire Wheels insure 35 to 50 per cent greater tire mileage.

PASCO Wire Wheels are stronger than any other wheels of similar construction. They are five times stronger than wood wheels of equal size, thus they are safer than any other wheel. They do not warp or get out of true. They can be driven anywhere through all kinds of roads and during all kinds of weather, with no danger of breaking or rusting.

The quick-change feature of PASCO Wire Wheels makes it possible for anyone to change a tire on the road in less than three minutes

PASCO Wheels add beauty and symmetry They are designed to be in exact proportion to the size of your car

PASCO Wheels are money savers. They will pay for themselves in less than a year by saving on tires alone, besides reducing the wear on unsprung parts of the car

SPECIAL REASONS WHY PASCO WIRE WHEELS ARE SUPERIOR TO ALL OTHER MAKES.

Interchangeability PASCO Wheels are the only wire wheels maintaining the STANDARD 56-INCH ROAD TREAD.

Valve Stem The valve stem hole is placed to allow an unobstructed accessability to the valve stem.

Curb Clearance—The PASCO method of lacing gives the highest possible curb clearance

Lacing The PASCO spoke lacing of 60 spokes is arranged to form the strongest possible wire suspension construction

Hub Construction—The PASCO hub construction is made entirely of pressed steel, insuring maximum strength and minimum weight

Interchangeability of Wheel—By the use of the adapter hub for the **FORD** and special inner hubs for the Chevrolet 490 and Overland Model 4, one set of wheels will interchange on three different makes of cars, giving the three largest selling outlets for the one wheel.

Lock—The Pasco Wire Wheel uses a simple two-piece hub cap employing the old principle of a lock nut with a right and left hand thread, which insures safety and eliminates all trouble from complicated locking devices

PRICE LIST.

A complete set is comprised of five wheels, four inner hubs, adaptors, hub caps, dust cover for spare wheel and wrench, everything ready for immediate installation When wheels are to be used on the Chevrolet 490 and Overland Model 4, special inner hubs are furnished

	Net Per Set
NO. 75—FORD all black, 30x3½ all around	$118.12
NO. 82—Chevrolet "490," all black	129.90
NO. 83—Overland 4, all black	129.90

FOR OTHER CARS.

Name of Car	Model	Year	Type Wheel Size Hub and No. Spokes	Rim	Price Per Set of 5
Buick	H or K44-45	1919-20	2-72	32x4 SS	$236.24
Cadillac	57 59	1919-20	4-78	34x4½ SS	279.00
Chalmers	35 C	1919-20	2-66	32x4 SS	196.88
Cleveland	40	1919-20	2-66	32x4 SS	196.88
Cole	870-880	1920	2-72	32x4½ SS	244.12
Dodge		1918-19-20	2-66	32x3½ SS	204.76
Essex	A	1919-20	2-66	32x4 SS	196.88
Franklin	Series 9	1919-20	2-66	32x4 SS	196.88
Hudson	Super Six	1919-20	2-72	32x4½ SS	220.50
				34x4½ SS	236.38
King	G	1920	2-72	32x4½ SS	244.12
Lexington	S	1920	2-66	32x4 SS	204.76
Lexington	R	1919	2-72	34x4 SS	212.62
Maxwell	25	1920	2-60	30x3½ Pl Cl	167.50
Nash	687	1920	2-72	33x4 SS	220.50
National	BB	1920	2-72	32x4½ SS	244.12
Oakland	34	1919-20	2-66	32x4 SS	196.88
Scripps-Booth	6-39 or 6-40	1919	2-66	32x4 SS	196.88
Standard (8)	H	1919	2-72	34x4½ SS	228.38
Studebaker	B 6-L 6	1919-20	2-72	32x4	220.50

Wheels are finished in any standard color, such as black, white, red, cream, yellow and green

$10.00 per set net extra for colors other than black.

ALL F. O. B. DETROIT, MICH.

RIM REPAIR PARTS.

WEDGES AND CLAMPS

No.	Rim Used With	Size Wedge Required	Net Each.
1C	Clamp Kelsey No. 100	1	0 24
2C	Clamp Baker No. 117	8	24
3W	Wedge Baker, regular	8	28
4W	Wedge Detroit	7	34
5W	Wedge Stanweld 21 .88 Regular	7	44
5RW	Wedge Stanweld Oversize	7	44
6W	Wedge Jaxon & Perfman 30x2½	7	32
61W	Wedge Baker Standardized & Perfman 32-34 16	3 & 7	33
62W	Wedge Oversize for Baker Standardized & Perfman	3 & 7	33
7C	Clamp Kelsey No. 110	5	54
71C	Clamp Kelsey No. 122	5	54
72C	Clamp Kelsey No. 115 and 120	5	54
8W	Wedge Prudden	7	36
9W	Wedge Jaxon No. 124	7	32
10W	Wedge Firestone	8	21
11C	Clamp Firestone	8	21
12W	Wedge No. 120	7	32
13C	Clamp Kelsey Up & Per 3.8	6	51
14W	Wedge Kelsey 30	6	54
14WW	Wedge Stanweld No. 78	7	44
15W	Wedge Jaxon No. 30	6	51
16C	Clamp No. 130	7	36
17A	Aaxon Universal Adj		70
18W	Wedge Goodrich	7	44
18C	Clamp Goodrich	6	48
20W	Wedge for Baker Standardized Oversize	7	32
21W	Wedge Goodyear	8	34

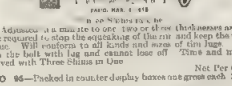
NUTS

			Net Each.
NO	2N	4	0 32
NO	4N	2-8	10
NO	6N	5	10
NO	8N	5-8-3	18
NO	10N	7	10
NO	12N	5	10
NO	14N	3	10

BOLTS

			Net Each.
NO	2A	Ford special	28
NO	2A	For 31-inch rims	28
NO	2B	For 4 inch rims	28
NO	3C	For 3-inch rims	27
NO	3D	For 3-inch rims	27
NO	4B	For 3½-inch rims	24
NO	4C	For 4 and 4½-inch rims	24
NO	5A	For 3-inch rims and Ford special	20
NO	5C	For 4 inch rims	20
NO	5D	For 4½ inch rims	20
NO	6C	For 4½ inch rims	20
NO	7B	Ford special	20
NO	7C	For 4½ inch rims	20
NO	7D	For 4½-inch rims	20
NO	8A	For 3½-inch rims for Baker No. 1, 7 30x3½	30
NO	8B	For 3½-inch rims Firestone & Goodyear	30
NO	8C	For 4-inch rims Firestone & Goodyear	30
NO	8D	For 4½-inch rims Firestone and Goodyear	30
No	9	See note below for rim sizes on this bolt.	
NO	9B	For 3½-inch rims	30
NO	9C	For 4-inch rims	30
NO	9D	Length 3¾ inches for 4½ inch rims	30

U. S. ADJUSTABLE RIM LUG SHIM



Adjusted in a minute to one inch or three thicknesses as may be required to keep the spindle of the rim and keep the wheel true. Will conform to all kinds and sizes of rim lugs. Does not tip the bolt with lug and cannot lose off. Rims and money saved with Three Shims in One

Net Per Gross

NO 95—Packed in counter display boxes one gross each 24 00

Table Showing Size and Type of Rim Bolt as Used With Various Makes of Rims.

Size of Rim	Parker	Jaxon	Baker	Kelsey No. 110-115-120 and Goodrich	Aetna Universal and Permanent Straight Side	Cleveland Detroit Jaxon Perfman Prudden Stanweld	Firestone Goodyear	Kelsey No. 30	Kelsey No. 100
3½-in Rims	2A	7B	4B	5A		7B	8B	9B	8C
4-in Rims	2B	8C-7C	4C	5C	6C	7C	8C	9C	8D
4½-in Rims		8D-7D	4C	5D	6C	7D	8D	9D	

DETAIL OF RIM EQUIPMENT.

USED ON PASSENGER CARS.

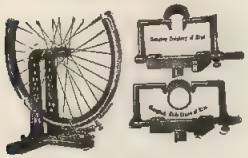
Make	Year	Model	Size	Type	Make Rim	Clamp or Wedge No.	Bolt	Nut
Allen.....	1918	41	32x3½	SS	Fir S.	11C	8B	6N
"	1919	All	32x3½	SS	Fir S.	11C	8B	6N
Apperson....	16-17	All	34x4	SS	Fir S.	10W	8C	6N
"	1918	All	34x4	SS	Fir S.	11C	8C	6N
"	1920	All	34x4	SS	Fir S.	11C	8D	6N
Auburn.....	1917	39-3C	34x4	SS	Fir S.	10W	8C	6N
"	1918	6-39S	36x4	SS	Fir S.	11C	8C	6N
"	1918	Spec.	34x4	SS	Fir S.	11C	8C	6N
"	1918	6-44	34x4 ½	SS	Fir S.	11C	8D	6N
"	19-20	6-39	33x4	SS	Fir S.	8C	8C	6N
Buesse	18-19	4-91	40x4	CL	119-124	6W 6W	7B	10N
Buick	1916	47-45	32-4x4	SS	Baker	3W	4C	2N
"	1916	D 44-45	36x4½	SS	Baker	7A	7C	2N
"	1917	D 44-45	40x4 ½	CL	No. 118	8W	7B	10N
"	917	D 44-45	34x4	SS	Baker	3W	4C	2N
"	9 8	5-24-45	30x3½	CL	No. 125	9W	7B	10N
"	9 8	5-44-45	34x4	SS	Perl	61W	7C	10N
"	918	48-46-47	34x4	SS	Perl	61W	7C	10N
"	918	5-49-50	34x4½	SS	Perl	61W	7C	10N
"	1918	45-37	32x3½	SS	Perl	61W	7B	10N
"	1918	D 44-45	34x4	SS	Stan	61W	7C	10N
"	1919	D-49-50	34x4 ½	SS	Stan	61W	7D	10N
Cadillac	16-17	All	36x4 ½	SS	A. 1	13C	6C	.
"	18-19	All	37x4½	SS	A. 1	12C	6C	.
Case	1919	All	34x4	SS	Stan 21	5W	7C	.
Chalmers	1917	35-5P	32x4	SS	K 30	15W	9C	.
"	16-17	45-7P	34x4	SS	K 30	15W	9C	.
"	18-19	6-30-5C	32x4	SS	K 30	15W	9C	.
"	18-19	6-30-7C	34x4	SS	K 30	15W	9C	.
"					K 100	1C	9D	.
Chandler.....	15-16-17	Ad	34x4	SS	Fir S	10W	8C	6N
"	18-19	All	34x4	SS	Fir S	11C	8C	6N
"	1920	All	32x4	SS	Stad.	20W	.	.
Chevrolet .	1917	F-5-5	32x3½	SS	Detr	4W	7B	10N
"	1917	D	34x4	SS	Detr	4W	7C	10N
"	1918	490	30x3½	CL	118-124	5W-4W	7B	10N
"	1918	FA2-5	32x4	SS	Perl	6W	7B	10N
"	19 8	D	34x4	SS	Detr	6W	7C	10N
"					Perl			
"	1920	490	30x3½	CL	No 119	6W	7B	10N
"	1920	FB	32x3½	SS	Stad	61W	7C	10N
Cole	16-17	A 1	34x4	SS	Fir E	10W	8C	6N
"	1918	870-1-2	32x3½	SS	Good	19C	7C	12N
"	1918	Other	34x4	SS	Good	19C	7C	12N
"	1919	All	32x4½	SS	K 30	15W	9D	.
					Fir E	11C	8D	6N
Dodge	1916-18	All	32x3½	SS	Stan 21	5W	7E	10N
"	1917	All	33x4 ½	SS	K-100	1C	9C	.
"	1918	All	32x4 ½	SS	K 1 00	1C	9C	.
					Dodge	18W	7B	.
"	1919	Ad	32x4 ½	SS	Dodge	18W	7B	.
Dort	1917	Ad	30x3 ½	CL	No. 124	4W	7B	10N
"	1918 19	Ad	30x4 ½	CL	119-124	6W-4W	7B	10N
Elgin	1916-17	All	32x3 ½	SS	Fir S.	10W	8B	6N
"	1918	All	34x4	SS	Fir E	11C	8C	6N
"	1919	All	34x4	SS	Fir E	11C	8C	6N
Essex	1919	All	32x4	SS	K 100	7C	9D	.
Ford	1919	Closed	30x3½	CL	No 123	7 C	5A	.
"	1919	Truck	30x3½	CT	N 123	7C	5A	.
Grant	15 to 18	All	32x3½	SS	Fir E	10W	8B	6N
"	1916	A 1	32x3½	SS	Stan 21	5W	R	10N
Haynes	1916	M 35	34x4	SS	Good	21W	8C	4N
"	16-17	46-47	34x4	SS	Fir E	10W	8C	6N
"	1917	40-4	34x4½	SS	Fir E	10W	8D	8N
"	918	38-39	34x4	SS	Fir E	11C	8C	6N
"	19-8	44	34x4½	SS	Fir S.	11C	8D	6N
"					Dayt	21W	8D	4N
Hudson	1917	55	34x4 ½	SS	Fir L	11C	8D	6N
"	1917	Sup. 6	34x4	SS	K 30	15W	9C	.
"	1917-18	Sp'r	32x4½	SS	K 30	15W	9D	.
"	1918	Sup 6	34x4	SS	K 30	15W	9C	.
					K 100	1C	9D	.
"	1919	Spir & R	32x4½	SS	K 30	15W	9D	. . .
		Sup. 6	34x4½	SS	R.P.S.S.	13C	9C	.
Hupmobile	1917	All	32-34x4	SS	Fir E.	11C	8C	6N
					K 30	15W	9C	.
"	1918	All	34x4	SS	Fir E	11C	8C	6N
"	1919	All	32x4	SS	K 100	1C	9D	.
					K 110	2C	8D	.
Kase	1917	All	34x4	SS	Stan 21	5W	7C	.
					Fir E	11C	8C	6N

Make	Year	Model	Size	Type	Make Rim	Clamp or Wedge No.	Bolt	Nut
Kissel -Cort	1918	6-38	32x4	SS	Stan 21	5W	7C	.
					Fir E	11C	8C	6N
"	1918	100 Pt	34x4	SS	Fir E	11C	8C	6N
"	1918	66	34x4	SS	Fir E	11C	8D	6N
Lexington	1919	All	34x4	SS	Good	19C	6C	12N
"	1919	All	32-34x4	SS	Good 9	9C	8C	12N
Locomobile	16 to 18	A 1	35 x4 ½	SS	Fir E	10W	8C	6N
"	1919	All	34x4½	SS	Fir C	11C	8D	6N
Maxwell	1919	All	32x3½	CL	No. 120	10C	8B	6N
	1920	All	30x3½	CI	No. 1 9	6W	7B	10N
Mitchell	16 to 18	All	32-34x4	SS	Stan 2.	5W	7C	.
	1919	Factory	32x4	SS	Stan 70	14WW	7C	.
Nash	1918	681-3	34x4	SS	Stan 2.	5W	7C	.
"	1918	682-4-5	34x4½	SS	Fir E	11C	8C	6N
"	19-0	681-3	33x4	SS	Fir E	11C	8C	6N
					Stad	61W	7D	10N
"	19-6	682-4-5	34x4½	SS	Fir E	11C	8C	6N
					Stad	61W	9D	10N
"	1918	682-4-5	32x4	SS	Fir E	11C	8C	6N
National....	16,7-18	All	34x4½	CL	Fir A	11C	8D	6N
"	1919	All	34x4½	SS	Fir C	11C	8D	6N
Oakland ..	1918-19	All	32x4	SS	Perl	61W	7C	10N
Oldsmobile .	1916	43-44	32x3½	SS	Baker	3W	4B	2N
"	1917	45-6P	32x3½	SS	Baker	3W	4B	2N
"	1917	45-7P	34x4	SS	Baker	3W	4C	2N
"	1917	37	32x4	SS	Baker	3W	4C	2N
"	1918	Tour 45	34x4	SS	Perl	61W	7D	10N
"	1918	47 Road	32x4	SS	Perl	61W	7C	10N
"	1919	37 Road	32x4	SS	Perl	61W	7D	10N
"	1919	45P Tour	34x4	SS	Perl	61W	7D	10N
"	1919	37 Sedan	32x4	SS	Stad	61W	7C	10N
Overland	1916	75	30x3½	CL	No. 120	12W	7B	8N
"	1916	85	32x3½	SS	Stan 21	5W	7B	.
"	19-6	86	34x4	SS	Stan 12	6A	7C	.
"	1917 18	88	33x3½	SS	Stan 21	5W	7D	.
"	1917 .8	88-84	32x4	SS	Stan 21	5W	7C	.
"	17 to 19	90	30x3½	CL	No 119	8W	7B	.
"	1919	4	30x3 ½	CL	No 119	6W	7B	10N
Paige	1916	6-38	32x4	SS	K 30	15W	9C	.
"	1916	6-46	34x4	SS	K 30	15W	9C	.
"	1917	6-39	32x4	SS	A 30	15W	9C	.
"	1917	5-5	34x4	SS	K 30	15W	9C	.
"	1918	5-39	32x4	SS	Parker	20C	2B	4N
"	1918	6-40	32x4	SS	Parker	20C	2B	4N
"	19-8	6-55	34x4	SS	K 30	15W	9C	.
					K 100	1C	9D	.
		L mont	32x4	SS	K 110	7C	9D	.
	1920	7 3	34x4½	SS	K 115	72C	5D	.
Packard	16 to 18	All	36x4	CI	Fir A	11C	8D	6N
"	1917-18	All	36x4½	CI	Fir A	11C	8D	6N
"	1919	2-35 & 35	34x4½	SS	Fir C	11C	8D	6N
Peerless	1918	All	34x4	SS	Stan 2.	5W	7C	.
"	19-7	A 1	34x4	SS	Fir E	10W	8C	6N
"	1918	A 1	34x4	SS	Fir E	11C	8C	6N
"	1919	All	34x4½	SS	Fir E	11C	8D	6N
Reo	1917	M N	34x4½	SS	Stan 21	5W	7D	.
"	1917	R-S	34x4	SS	Stan 21	5W	7C	.
					Fir E	11C	8C	6N
"	1918	M N	34x4 ½	SS	Stan 21	5W	7D	.
"	1918	T-1	33x4	SS	Fir E	11C	8C	6N
Saxon	1918-19	R-S2	32x3½	SS	Stan 21	5W	7B	10N
"	1917-18	R 6-6E	30x3	CL	No. 118	8W	7B	10N
"	17 to 19	S 4	32x3½	SS	Stan 2.	5W	7B	.
					Fir E	11C	8B	6N
"	1918	A 1	32x4	SS	Fir E	11C	8B	6N
Studebaker	1918	All	32x3½	SS	K 30	15W	9B	.
					K 100	1C	9C	.
	1918	EC 6	32-34x4	SS	K 30	15W	9C	.
					K 100	1C	9D	.
	1918	LH-6	32x4	SS	K 30	15W	9C	.
					K 100	1C	9D	.
"	1920	Simal	32x4	SS	K 110	7C	5D	.
		Big 6	32x4	SS	K 110	7C	5D	.
Vello	1917-18	All	32-34x4	SS	Odyr	21W	8C	4N
"	1919	All	32x4	SS	Fir E	11C	8C	6N
					Odyr	21W	8C	4N
Willys-Knight	1916	.	34x4	SS	Stan 21	5W	7C	.
	1917-18	84	34x4½	SS	Stan 21	5W	7D	.
Willys-Six. ..	1919	All	32x4	SS	Stan 21	5W	7C	.
Winton	1919	33-48	34x4 ½	CI	Fir C	11C	9D	6N

Abbreviations. 'Fir' for Firestone, 'Stan' for Stanweld; 'Good' for Goodrich. 'Perl' for Perlman 'Stad' for Baker Stan dard, 'K' for Kelsey K, U, and K, F S S." for Kelsey Universal and Permanent Straight Side; "Odyr" for Goodyear, 'Detr' for Detroit.

FORD Parts that fit and give satisfaction

TRUEING STANDS.



Dudley's.

This item is made to fill a big demand for a practical device to repair and true up a bicycle wheel.

This new machine bears so many points of excellence that it has proven a success as a perfect repair stand.

Trues The Wheel, Holds It While Making Repairs.

	Net each
NO. 100—Malleable iron frame, japanned finish	$13.00

BRAZING COMPOUND.

Superior.

Genuine "Superior" brazing flux, this is the only article of its kind that will insure a clean, bright and secure joint, free from all scale.

	Net per lb.
NO. 10—In 1 lb. boxes	$0 96

BRAZING SOLDER.

Strictly "A" Grade Brazing Solder or Spelter.

	Net per lb
NO. 5—One size only, a medium round grain, the most popular size	Market Price

ONE POUND IN A CLOTH LINED ENVELOPE.

BICYCLE ENAMEL.

DUTCH BRAND AIR DRYING ENAMEL. Covers Perfectly, Flows Smoothly, Dries Quickly.

This enamel is ground in pure linseed oil and produces a rich, brilliant finish, covering perfectly, only one coat being necessary. It is easy to apply and gives exceptionally good results. Hard, yet elastic, and will not crack nor chip. Our Black Enamel is not ordinary asphaltum dissolved, but contains a high-grade black pigment ground in pure linseed oil the same as our other colors

	Net Per Doz.
NO. 19—Black, ¼ pint cans	$3.70
NO. 20—National Blue, ¼ pint cans	5.50
NO. 21—Maroon, ¼ pint cans	5.50
NO. 22—Vermillion, ¼ pint cans	5.50
NO. 23—Golden Brown, ½ pint cans	5.00
NO. 24—Olive Green, ¼ pint cans	5.00
NO. 25—Battleship Gray	5.00
NO. 26—Military Drab	5.00
NO. 27—Orange	5.00
NO. 28—White	5.00

THREE-IN-ONE OIL.

Three-in-One is an oil compound—sweet, light, absolutely pure. It has three major uses. First, oils anything; second, cleans and polishes veneered and varnished surfaces; third, prevents rust or tarnish, indoors or out, in any climate, in any weather.

No Acid—Three-in-One is absolutely free from acid, alkali or any other harmful ingredient. Cannot harm or injure in any way the most delicate veneered or varnished surfaces.

No Grease—No Impurities—Three-in-One is positively grease free. Cannot collect dust and dirt. Never hardens, dries out, gums or cakes.

No Unpleasant Odors—Three-in-One has no disagreeable varnish odor—no "smelly" fish oil odor—no cheap oily smell. It is delicately flavored with a pleasing scent

	Net Per Doz.
NO. 31—1-oz. bottles, lists 15c each; weight 2¼ lbs. per dozen; two dozen in a package	$2.40

THREE-IN-ONE OIL.

	Net Per Doz
NO. 32—3-oz. bottles, lists 25c each; weight 6 lbs. per dozen; one dozen in a package	$4.80

THREE IN ONE OIL.

FACTORY SIZE.

	Net Per Doz.
NO. 34—8-oz. bottles, lists 50c each; weight 9½ lbs. per dozen; one dozen in a package	$9.00

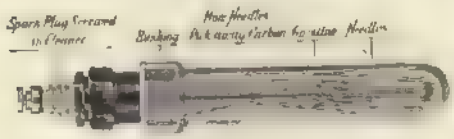
HANDY OIL CAN.

	Net Per Doz.
NO. 33—Handy cans with movable spout, weight 5 lbs. per dozen	$4.80

For Nearly a Century the Store of Service.

CHAMPION SPARK PLUGS

CHAMPION MINUTE SPARK PLUG CLEANERS



The proper cleaning of spark plugs is an operation that cannot always be performed by the novice, and even when done by those familiar with the operation, requires considerable painstaking care and time.

FRONT OF DISPLAY CASE

The Champion Minute Spark Plug Cleaner enables the novice as well as the expert mechanic to thoroughly clean the spark plug without the necessity of dismantling it or the use of any tools. It is a simple solution of an ever present automobile or gas engine difficulty.

REAR OF DISPLAY CASE

Comprised of a glass tube, 5 inches long, containing about 50 needles, with a bushing in the open end into which the spark plug is screwed.

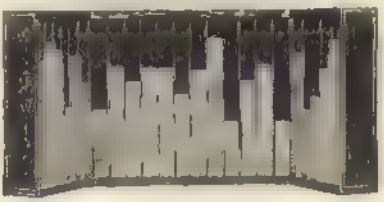
Price.....each .75

The display and stock case is delivered free when ordering 10 or more cleaners.

MERCHANDISER - FRONT

The Champion Merchandiser will be delivered free with a full assortment of 200 Champion Spark Plugs and 100 insulators representing the leading types that are in constant demand by car owners.

MERCHANDISER REAR



Conveniently arranged for quick sales, size 31x15x11 inches.

WINDOW DISPLAYS

A dealer when purchasing Champion Spark Plugs in quantity lots may assort order in any number of types. Insulators do not apply.

AC SPARK PLUGS

AC TITAN

⅞-inch Long No. 78LT

⅞-inch Long Body No. 78LBT

⅞-INCH LONG

Regular equipment on Buick, Chevrolet, Kissel-Kar 1920, (McLaughlin-Buick, Canada), Scripps-Booth 4-cyl., Sheridan; Howell, Knox, Samson Tractors; Olds Trucks and Midwest Engines.

Price ..... each **1.00**

⅞-INCH LONG BODY

Regular equipment on Chandler, Phianna, Stevens-Duryea, White; Bessemer, Hahn, Moreland, Patriot, Titan Trucks, Robinson Fire Trucks; Owens Light and Power Plants and Northlite Lighting Plants.

Price ..... each **1.00**

AC TITAN

SAE REG No. SAET

Regular equipment on Apperson, Commonwealth, Daniels, Haynes, Marmon, Mitchell, Saxon, Singer, Stearns-Knight, Riker Trucks, Delco Light Plants

Price ..... each **1.00**

No. SAEST—SAE

Slightly shorter than SAE Regular. Used as regular equipment on 1920 Locomobile.

Price..... each **1.00**

AC TITAN

Dodge Special No. 78DT

SAE Long No. SAELT

DODGE SPECIAL

Slightly longer than the ⅞-inch regular plug Made especially for Dodge Bros exclusive equipment on all their cars.

Price each **1.00**

SAE LONG

Regular equipment on Oakland since 1914. Oldsmobile 6-cyl., Premier, Scripps-Booth 6, all Nash Cars up to 1920, Bates Steel Mule and Sawyer-Massey Tractors

Price ..... each **1.00**

No. SAENT OR EXTRA LONG SAE

Regular equipment on Nash Cars since 1920

Price ..... each **1.00**

AC TITAN

No. 18ACA METRIC

Regular equipment on Curtiss and Hall-Scott airplanes. Used on Liberty and Hispano-Suiza Motors

Price ..... each **1.50**

AC TITAN

⅞-inch REG No. 78RT

1½-inch Long No. 12LT

⅞-INCH REGULAR

Regular equipment on Cadillac, Cleveland, Cole, Dort, Hupmobile, Jordan, Lafayette, Russell-Knight up to 1920, Liberty, Oldsmobile 8-cyl., Packard, Paige-Detroit, Revere, Roamer and 160 other well-known makes of passenger cars, trucks, tractors and motors.

Price ..each **1.00**

1½-INCH LONG

Regular equipment on Reo Cars and Trucks and Speedway Motors Recommended for Overland up to 1914 and Winton up to 1915.

Price..... each **1.00**

AC TITAN

No. 18MT REGULAR METRIC

Regular equipment on Essex and Hudson 1921 (carbon proof type.) Wills Sainte Claire

Price each **1.00**

No. 18LMT LONG METRIC

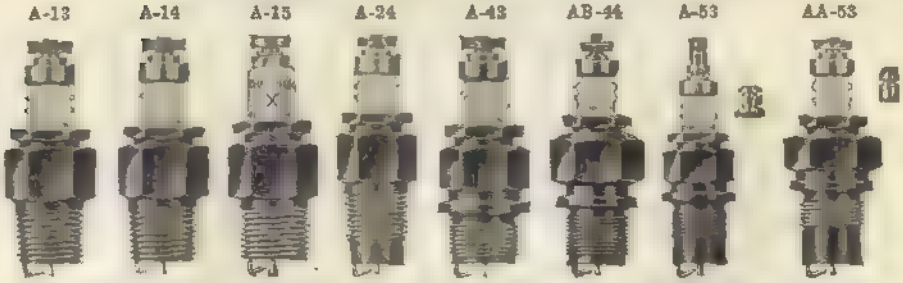
Regular equipment on Scripps-Booth 8 and Porter.

Price..... each **1.00**

Write us Your Requirements for Goods Not Listed.

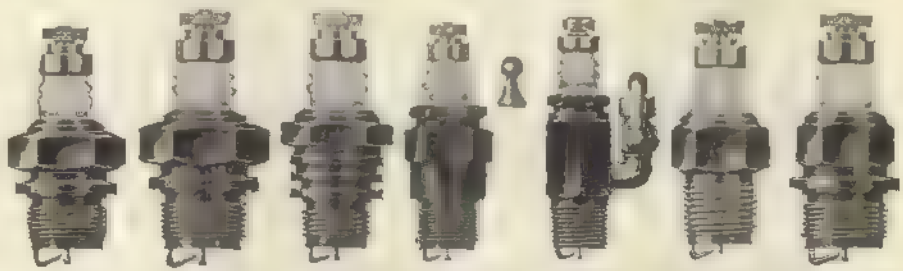
For Nearly a Century the Store of Service.

CHAMPION SPARK PLUGS



A-13, ½-inch thread. A-14, A-14-0, ½-inch thread. A-34, ½-inch thread extra long. A-15, ½-inch thread, for Ford cars. A-24, ½-inch thread long, for Fordson tractor. A-43, ⅝-inch thread, A-63, metric thread, A-44, ⅝-inch thread. A-64, metric thread. AB-44, ⅝-inch thread, for Dodge cars. A-53, ⅞-inch thread, long. AA-53 ⅞-inch thread, long.

Price, Types A-13, A-14, A-14-0, A-34, A-43, A-63, A-44, A-64, AB-44, A-53 and AA-53 ..... each .90
Price, Types A-15 and A-24.. ..... " .75



JA-43, ½-inch thread. JAS-43, ½-inch thread; JA-63, ½-inch thread, long. J-63, metric thread. B-13, ½-inch thread. B-43, ⅝-inch thread. B-53, ⅞-inch thread, long. B-73 3/4-inch thread. B-83, 3/4-inch thread, long. H-14, ½-inch thread. H-44 ⅝-inch thread. H-64, metric thread. JB-43, ⅝-inch thread. J-13, ½-inch thread, J-23, ½-inch thread, long. J-43, ⅝-inch thread; J-53, ⅞-inch thread long. Short ball and short post terminal included with J-53.

Price, Types JA-43, JAS-43, JA-63, J-63, JB-43, J-13, J-23, J-43, J-53 ..... each 90
" " B-13, B-43, B-53, B-73, B-83 ..... " 1.00
" " H-14, H-44, H-64 ..... " 1.25

INSULATORS

Insulator No.	For Spark Plug Type	Price Each
A-103	A-13, A-43, A-63	.45
A-104	A-14, A-44, A-64	.45
A-104-0	A-14-0	.40
A-105	A-15	.45
A-204	A-24, AB-44	.45
A-304	A-34	.45
A-503	A-53, AA-53	.45
B-103	B-13, B-43, B-53, B-73	.50
B-803	B-83	.50
H-104	H-14, H-44, H-64	.45

Symbols ending with three are conical insulators.
Symbols ending with four are petticoat insulators.

CHAMPION SPARK PLUGS

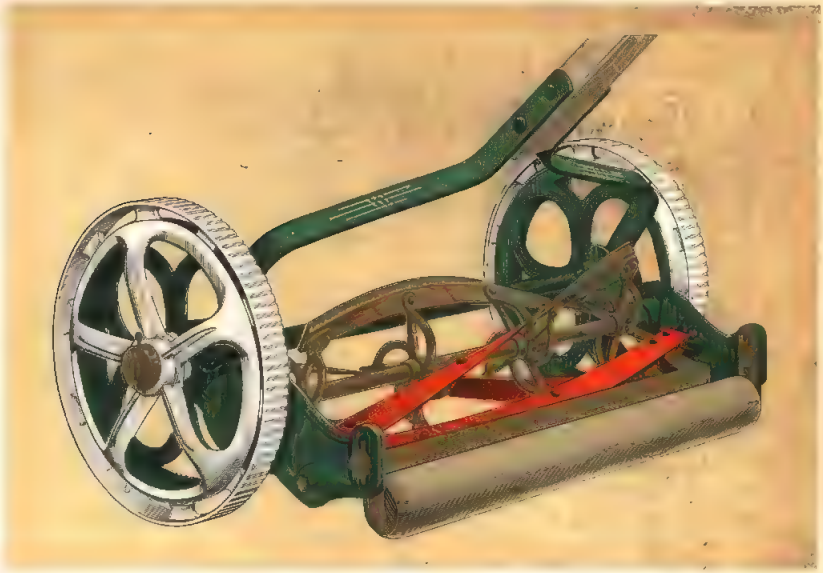
INDEX CHART TO SIZES

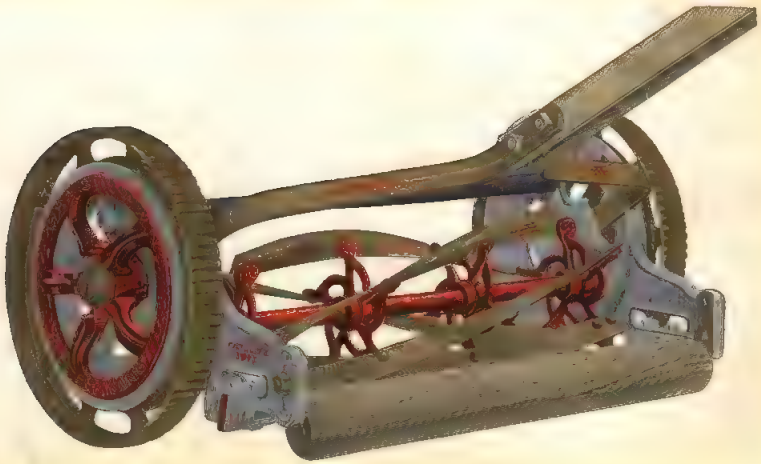
PASSENGER CARS

Name of Car	Size Inches	Plug No.
*Allen	7/8	A-43
*American	7/8	JAS-43
Anderson	7/8	A-43
Apperson	7/8	J-43
Auburn	7/8	JB-43
Austin	7/8	JB-43
*Baggs	7/8	B-43
*Bell	7/8	B-43
*Biddle	7/8	A-44
*Brisco	7/8	JAS-43
Buick L	7/8	A-53
Cadillac	7/8	JAS-43
Case	7/8	JB-43
*Chalmers	7/8	JAS-43
Chandler	7/8	JB-43
Chevrolet L	7/8	A-53
Cleveland	7/8	A-43
*Cole	7/8	JAS-43
Cole	7/8	JAS-43
*Columbia	7/8	B-43
Crawford	7/8	B-43
*Crow Elk	7/8	J-43
*Cunningham	7/8	B-43
Daniels	7/8	JB-43
Davis	7/8	JA-43
Detroiter	7/8	JA-43
Dixie-Flyer	7/8	A-43
Dodge	7/8	AB-44
*Dorris	7/8	B-43
" L	7/8	B-53
Dort	7/8	JA-43
Douglas	7/8	B-43
*Edgar	7/8	A-43
*Elgin	7/8	A-43
Ermine	7/8	A-43
Essex Metric		A-64
*Ferris 6	7/8	JAS-43
Fiat	7/8	B-43
*Ford	1/2	A-15
*Forster	7/8	JB-43
Franklin L	7/8	J-53
*Garcner	7/8	A-44
*Geronimo	7/8	JAS-43
Glide	7/8	JA-43
*Grant	1/8	A-43
Gray-Dort		
Canada	7/8	A-43
H. A. L.	7/8	JAS-43
Handley-Kn.	7/8	B-43
*Hanson	7/8	JAS-43
Harroun	7/8	JA-43
Haynes	7/8	JAS-43
Highlander	7/8	A-44
Hollier	7/8	A-43
Holmes	7/8	J-43
Hudson	7/8	JA-43
*Hupmobile	7/8	JAS-43
Hupmobile	7/8	JA-43
Interstate	7/8	A-43
*Jackson	7/8	JAS-43
*Jones	7/8	A-43
*Jordan L	7/8	JA-53
*King	7/8	JAS-43
Kissel Kar L	7/8	JA-53
*Kline Kar	7/8	A-43
Lafayette	7/8	JA-43
*Lexington	7/8	A-43
Liberty	7/8	JA-43
*Lincoln	7/8	JAS-43
*Little	1/2	A-14
Locomobile	7/8	JB-43
Madison	7/8	A-43
Marbolm	7/8	A-43
Marion	7/8	JA-43
" Han	7/8	B-43
*Marmon	7/8	J-43
*Maxwell	7/8	A-44
*McFarlan Six	7/8	B-43
McLaughlin		
Canada L	7/8	AA-53
*Mercer	7/8	J-43
*Metz	7/8	A-43
Mitchell	7/8	JB-43
Moline-Kn.	7/8	B-43
*Monitor	7/8	A-43
Monroe	7/8	J-43
*Moon	7/8	JAS-43
*Moore	7/8	A-43
Murray	7/8	B-43
Nash L	7/8	J-53
National L	7/8	J-53
Nelson	7/8	A-43
*Norwalk	7/8	J-43
Oakland L	7/8	A-53
Oldsmobile 6 L	7/8	A-53
" 8	7/8	JAS-43
Olympian	7/8	JA-43
*Overland	1/2	A-14
*Overland Six	7/8	B-43
*Owen Mag	7/8	B-43
Paragon	7/8	JAS-43
Paige-Det	7/8	JB-43
Pathfinder	7/8	B-43
Paterson	7/8	JA-43
*Peerless	7/8	JB-43
Penn	7/8	A-43
*Pierce, Eng	Metric	A-64
*Piedmont	7/8	A-43
"	7/8	JAS-43
Pierce-Arrow	7/8	JB-43
Pilot	7/8	J-43
Premier	7/8	J-43
Pullman	7/8	A-43
*Ranger	7/8	A-43
"	7/8	JAS-43
Regal	7/8	A-44
Reo L	1/2	A-24
Revere	7/8	JAS-43
Reutner	7/8	JAS-43
*Rolls-Royce	Metric	A-64
"	"	J-43
Ross	7/8	JA-43
R. & V. Kn.	7/8	B-43
Saxon	7/8	JA-43
*Sayers	7/8	JAS-43
Scripps-B. L	7/8	A-53
*Seneca	7/8	J-43
*Sevcrn	7/8	JAS-43
Sheridan	7/8	A-43
*Simplex	7/8	A-44
Standard	7/8	J-43
States	7/8	A-44
*Stearns-Kn.	7/8	J-43
*Stephens L	7/8	JA-53
Stevens-Dar	7/8	JB-43
*Studebaker	7/8	A-43
*Stutz	7/8	J-43
Templar	7/8	J-43
*Tulsa	7/8	JAS-43
"	7/8	B-43
*Velie	7/8	JB-43
Westcott	7/8	JB-43
White	7/8	JB-43
*Willys-Kn.	7/8	B-43
*Willys-Six	7/8	A-44
*Winton	7/8	B-43
Woods Mob.	1/2	A-13

*Champion factory equipment.

Write us Your Requirements for Goods Not Listed.





For Nearly a Century the Store of Service.

HAMMERS

HORSESHOE MAGNET BILLPOSTERS' HAMMERS

JOINTED HANDLE

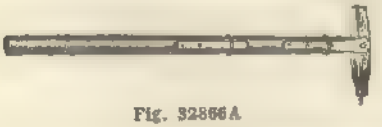


Fig. 32866A

Fig. 32866B

Fig. 32866C

No.	Weight Head Ounces	Length Inches	Jointed Handle Sections No.	Jointed Handle Sections Size Inches	*Price Each
502	5	36	2	18	3.50
503	5	45	3	15	4.50
802	8	36	2	18	4.00
803	8	45	3	15	5.00

*With springs for holding card to set first tack.

The joints, 2-section handle supplied in 12 or 15-inch lengths and the 3-section in 12-inch lengths. All handle sections interchangeable.

PLAIN HANDLE

Fig. 32866D

No.	Weight Head Ounces	Length Inches	Price, Each — Without Springs	Price, Each — *With Springs
515	5	15	2 30	
518	5	18		2 80
524	5	24		2 90
530	5	30		2 90
536	5	36		2 90
815	8	15	2 80	
818	8	18		3 30
824	8	24		3 40
830	8	30		3 40
836	8	36	....	3.40

*For holding card to set first tack.

HORSESHOE MAGNET TACK HAMMERS

Fig. 32866E

No.	Weight Head Ounces	Length Inches	Price Each
†412	4	12	1.00
512	6	12	2.00
812	8	12	2.50
...	..	..	.. ..

†Small size for house or shop use.

ADZE EYE NAIL HAMMERS

ROUND

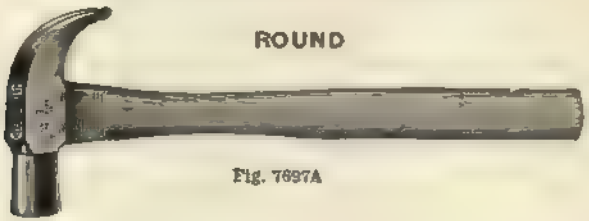


Fig. 7697A

Number	0	1	1½	2	3
Weight	1 lb. 10 oz.	1 lb. 4 oz.	1 lb.	13 oz.	7 oz
Price ..per dozen	16.00	13.00	12.00	11.25	10.00

BELL FACE

Fig. 7697B

Number	10	11	11½	12	12½	13	14
Weight	1 lb. 9 oz.	1 lb. 3 oz.	1 lb.	12 oz.	10 oz.	7 oz.	5 oz.
Price per dozen	16.00	13.00	12.00	11.25	10.50	10.00	9.50

STRAIGHT CLAW, ROUND

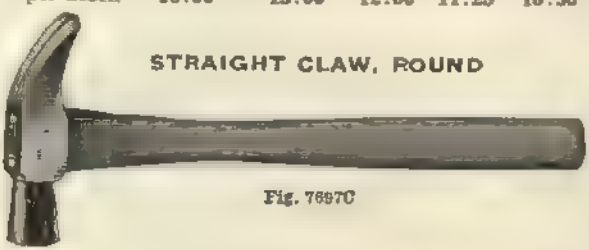


Fig. 7697C

Number	701	701½
Weight	1 lb. 4 oz.	1 lb
Price ..per dozen	13.00	12 00

STRAIGHT CLAW, BELL FACE

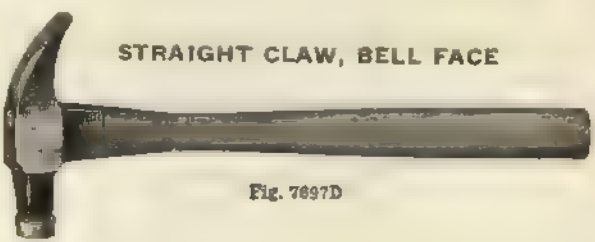


Fig. 7697D

Number	711	711½	712
Weight	1 lb 3 oz.	1 lb	12 oz
Price ..per dozen	13.00	12.00	11.25

Write us Your Requirements for Goods Not Listed.

For Nearly a Century the Store of Service.

HAMMERS

PLAIN EYE RIVETING HAMMERS

Fig. 26367A

Number	265	266	267	268	269
Weight, ounces	6	4	3	2	1
Price, per dozen	8.00	7.50	7.25	7.00	7.00

TINNERS' RIVETING HAMMERS

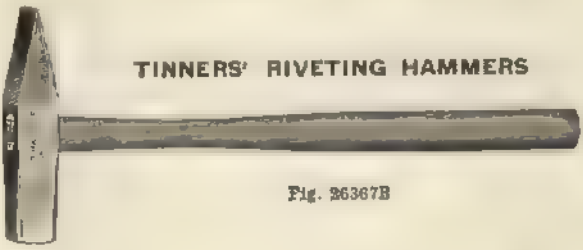


Fig. 26367B

Number	293	294	295
Weight, ounces	16	12	8
Price, per dozen	10.50	9.50	8.50

PLAIN EYE RIVETING HAMMERS

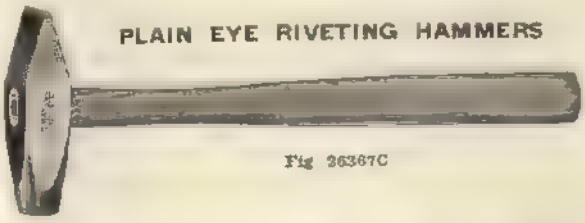


Fig 26367C

Number	40	41	42	42½	43	44
Weight, ounces	24	18	13	10	7	4
Price, per dozen	12.00	10.50	9.25	8.50	8.00	7.50

TINNERS' SETTING HAMMERS

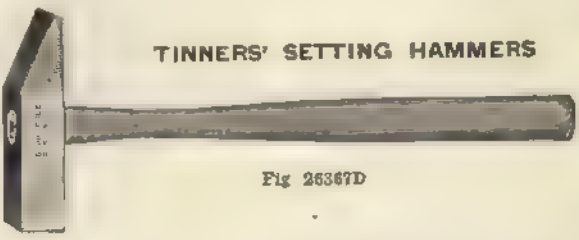


Fig 26367D

Number	303	304	305
Weight, ounces	16	12	8
Price, per dozen	10.50	9.50	8.50

MAYDOLE HAMMERS

MACHINISTS' HAMMERS

Fig. 40643A

Fig. 40643B

MACHINISTS' BALL PEIN ROUND HAMMERS

No.	Weight Each Oz.	Price per Doz.	No.	Weight Each Oz.	Price per Doz.
70	48	30 00	76	10	15 25
70½	36	25 50	77	7	14 25
71	30	23 25	78	5	13 50
72	24	21 00	779	3	11 75
73	20	19 50	779½	2	11 75
74	16	18 00	779¼	1	11.75
75	13	16 50			

MACHINISTS' CHIPPING HAMMERS

No.	Weight Each Ounces	Price per Doz.
100	28	22 00
101	22	20 00
102	18	18.50

DOUBLE FACE RIVETING HAMMERS

Fig. 40643C

No.	Weight Each Ounces	Price per Doz.
245	3	7.50
246	2	7 25
247	1	7.25

BLACKSMITHS' AND ENGINEERS' HAMMERS

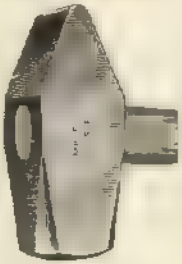


Fig. 40643D

Fig. 40643E

BLACKSMITHS' WEDGE PEIN HAND HAMMERS

No.	Weight, Each Ounces	Price per Doz.
761	48	22.00
762	42	20.00

ENGINEERS' RIVETING PEIN HAMMERS

No.	Weight Each Ounces	Price per Doz.
701	36	18.50
702	28	16.75

BRICKLAYERS' ADZE EYE HAMMERS

Fig. 40643F

No.	Weight Each Ounces	Price per Doz.
562	30	20 00
563	22	18.00

Write us Your Requirements for Goods Not Listed.

VACUUM WASHING MACHINES.

"KLEAN KWICK."

Hand Power.

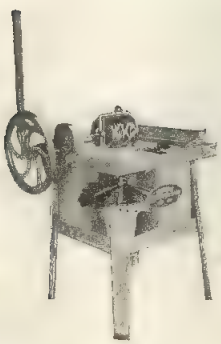
THE VACUUM PRINCIPLE OF WASHING The time required to wash clothes clean has been reduced to a minimum. In from 3 to 5 minutes, over 1,000 gallons of boiling hot suds and steam are forced through the clothes. Thus the clothes are thoroughly washed in 1/3 the time required by the ordinary Dolly or peg type or other make of Washers and the additional rubbing on the wash board or boiling of the clothes is entirely eliminated.

MECHANICAL DETAILS All gears are cut not cast. All shafting made of cold rolled steel. All working parts are thoroughly covered and guarded.

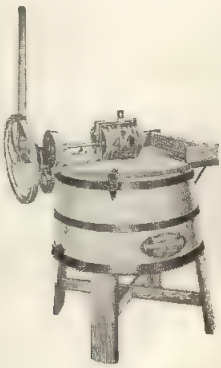
THE STOMPER OR DASHER. It is made of galvanized iron for the wood and galvanized tubs. It is a cone shape, and attached to the improved mechanical construction, and raises and lowers and rotates 130 times per minute. There is no valve to release the suction. It produces an equal power of agitation on the up stroke as it does on the down stroke thereby developing the same action of the water by air pressure and suction as can be accomplished by rubbing on a washboard. It is 11 inches in diameter attached to tool steel sleeve which telescopes the steel rod attached to the main casting making a complete telescope head. Therefore, there is no chance for any grease or oil to get into the tub. No lubricant is necessary on the stomper post as the soap in the water lubricates the steel sleeve so that the same will work easily and freely.

TUBS The tubs are made either of heavy galvanized iron, or genuine Louisiana Red Swamp Cypress. The wood tubs are corrugated—sides and bottom. All tubs are equipped with drain spout and faucets.

FINISH The wood tubs are finished with a coat of filler and two heavy coats of varnish, giving a very heavy gloss. Each casting is hand-painted with a high-grade aluminum and blue enamel.



No. 5.



No. 6.

NO. 5—Galvanized Tub, weight 90 lbs. each . . . . . Net each $39.50

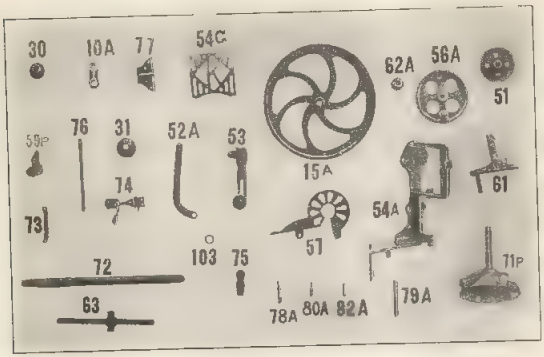
NO. 6—Wood Tub, weight 100 lbs. each . . . . . Net each 41.00

"PAGONA"—a strong and better selling line.

REPAIR LIST

HAND POWER

"KLEAN KWICK" VACUUM WASHING MACHINES



	Net each
NO. 10AS—Crank arm	$0 80
NO. 15A—Balance wheel	5 12
NO. 30—Upper washer	48
NO. 31—Lower washer	48
NO. 51—Gear wheel	1 92
NO. 52A—Connecting rod	1.28
NO 53 Handle casting	1.28
NO. 54AS .Head casting	6 08
NO. 54G -Guard	1.28
NO 56A—Gear wheel	2.08
NO. 57 Gear cover	1.32
NO. 61 —Corner bracket	1 44
NO. 62A—Pinion	.80
NO. 63S—Stomper rod and sleeve	2.24

	Net each
NO. 71P Stomper complete	$4.48
NO. 72—Handle (wood)	.32
NO. 73 Wringer brace	.40
NO. 74—Lid lock	.48
NO. 75—Plug (wood)	.24
NO 76—Shaft	96
NO. 77—Hinges, per pair	.80
NO. 78A—Handle casting pin	.22
NO. 79A Balance wheel stud	.64
NO 80A—Connecting pin for handle casting	.32
NO. 82—Center gear stud	.32
NO. 59P Connecting link	1.92
NO. 103—Stomper nut	.32

When ordering any of the above parts, be sure to give complete number and name of piece wanted.

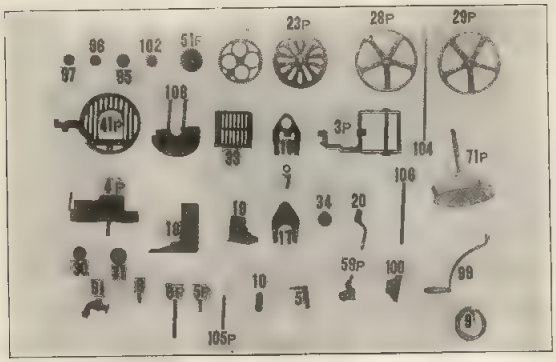
Our minimum charge for repairs, 20 cents.

F. O. B. FACTORY

REPAIR LIST

ELECTRIC

"KLEAN KWICK" VACUUM WASHING MACHINES



	Net each
NO. 3P Head casting	$4.80
NO. 4P—Center bracket complete	3.20
NO. 5 Lid lock	.48
NO. 5P—Short stud for No. 4P.	.32
NO. 6P—Long Stud for No. 4P	.48
NO. 7—Stomper nut	.32
NO. 8 Short stud for No. 17	.40
NO. 9—Leather belt (round)	4.20
NO. 10 Crank arm	.80
NO. 16—Housing for reverse gear	.80
NO. 17—Gear plate	1.92
NO. 18—Wringer bracket (large)	4.00
NO. 19—Wringer bracket (small)	2.08
NO. 20—Reverse handle	.64
NO. 23P Large gear	3.20
NO. 27—Gear wheel	2.24
NO. 28P—Grooved pulley	3.20
NO. 29P Flat face pulley	4.16

	Net each
NO. 30—Upper washer	$0.48
NO. 31—Lower washer	.48
NO. 33 Guard for head casting	1.28
NO. 34—Eccentric	.64
NO. 41P—Inside guard	1.92
NO. 51P—Gear	1.12
NO. 59P—Connecting link	1.92
NO. 71P Stomper complete	4.48
NO. 91 Drain spout complete	2.00
NO. 95—Pinion	.96
NO. 96—Small pinion	.96
NO. 97 Shoulder pinion	.96
NO. 99—Wringer crank	1.60
NO. 100 Hinges, per pair	.80
NO. 102—Pinion with clutch	1.12
NO. 104—Reverse Shaft	.96
NO. 105P Wringer shaft drive	.96
NO. 106—Main shaft	1.12
NO. 108—Guard for No. 27	1.60

When ordering any of the above parts, be sure to give complete number and name of piece wanted.

Our minimum charge for repairs, 20 cents.

F. O. B. FACTORY

"PAXTON" is our guarantee of quality.

VACUUM WASHING MACHINES.

"KLEAN KWICK."

Electric.

THE VACUUM PRINCIPLE OF WASHING The time required to wash clothes clean has been reduced to a minimum In from 3 to 5 minutes over 1,000 gallons of boiling hot suds and steam are forced through the clothes Thus the clothes are through the washer in 1-3 the time required by the ordinary Dolly or peg type or other makes of Washers and the additional rubbing on the wash board or boiling of the clothes is entirely eliminated.

MECHANICAL DETAILS All gears are cut no cast All shafting made of cold rolled steel All working parts are thoroughly covered and guarded.

THE STOMPER OR DASHER It is made of galvanized iron for the wood and galvanized tubs, of copper retinned inside for the copper tub machines It is a cone shape, and attached to the improved mechanical construction and raises and lowers and rotates 120 times per minute There is no valve to release the suction It produces an equal power of agitation on the up stroke as it does on the down stroke, thereby developing the same action of the water by air pressure and suction as can be accomplished by rubbing on a washboard It is 11 inches in diameter, attached to tool steel sleeve which telescopes the steel rod attached to the main casting, making a complete telescope head Therefore, there is no chance for any grease or oil to get into the tub No lubricant is necessary on the stomper post as the soap in the water lubricates the steel sleeve so that the same will work easily and freely.

TUBS The tubs are made either of heavy solid copper—retinned lining heavy galvanized iron, or genuine Louisiana Red Swamp Cypress The wood tubs are corrugated—sides and bottom All tubs are equipped with bottom drain spout and faucets.

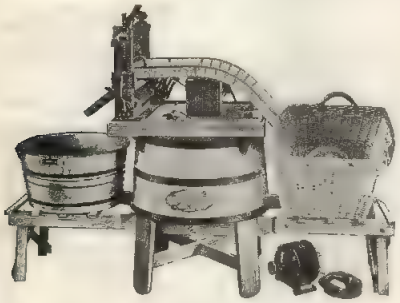
FINISH. The wood tubs are finished with a coat of filler and two heavy coats of varnish, giving a very heavy gloss Each casting is hand-painted with a high grade gold bronze.

MOTOR EQUIPMENT The motors are ¼ H. P., and are all tested by putting the machines to the most severe trials possible. Motors are provided with 10 feet of cord with attachment plug to fasten to light socket.

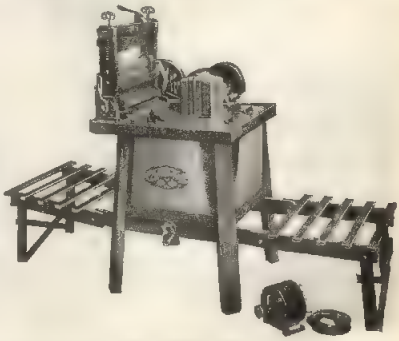
OPERATING LEVER It is within easy reach, and the wringer can be started or stopped instantly With the lever in a forward position, the wringer wrings from the machine and in throwing the lever back, reverses the wringer Stopping the lever at the center notch lets the wringer stand idle You can run both the washer and the wringer under full load at the same time, or run either washer or wringer alone.

CLOTHES CONVEYER With the aid of the clothes conveyer you can wring from the rinsing tub while the washer is working changing the clothes from the rinsing tub into a basket on the opposite side, or into the bluing water.

WRINGER The wringer has 11 inch rolls, with a 5 year guarantee All gearings are enclosed. Equipped with reversible water board, allowing water to drain into the washer or laundry tub.



No. 21 and 121



Nos 21, 22, 123 and 122

	Net Each
NO. 21—Wood tub, motor 110 volts, 60 cycles, A. C., weight 207 lbs. each	$131.00
NO. 23 Galvanized tub, motor 110 volts, 60 cycles, A. C., weight 231 lbs. each	140.00
NO. 22—Copper tub, motor 110 volts, 60 cycles, A. C., weight 229 lbs. each	145.00

Equipped for Delco Farm Lighting Plants.

NO. 121—Wood tub, motor 32 volts, D. C., weight 207 lbs each	$143.00
NO. 123 Galvanized tub, motor 32 volts D. C., weight 231 lbs. each	148.00
NO. 122—Copper tub, motor 32 volts, D. C., weight 229 lbs. each	153.00

Direct Current

NO. 221—Wood tub, motor 110 volts, D. C., weight 207 lbs each	153.00
NO. 223—Galvanized tub, motor 110 volts D. C., weight 231 lbs. each	158.00
NO. 222—Copper tub, motor 110 volts, D. C., weight 229 lbs. each	163.00

"PAGOMA" is a guarantee certificate.

SHURE WINNER
THE PRICE LIST

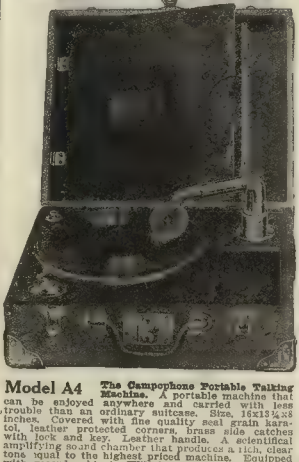
METROPOLITAN TALKING MACHINES

Made for us according to our own specifications. For appearance, finish and tone quality these machines are the equal of machines priced considerably higher. Will play all makes of records perfectly.

ALL PRICES INCLUDE WAR TAX

Model A2 **Metropolitan Talking Machine.** Equipped with strong motor. Universal tone arm, which plays every make of record. Sloping gradually, amplifying sound chamber, which produces a sound rich in quality and volume. 10-inch turntable. All metal parts highly nickel plated and polished. Size of cabinet 13x13 in., height 9 in. Mahogany finish.
Each..... 7.50

Model A3 **Metropolitan Talking Machine.** Extra strong motor. Universal tone arm, which will play all makes of records without changing reproducer. Handsome cabinet with hinge cover and open front. Has sloping, gradually amplifying sound chamber, which produces a tone rich in quality and volume. All exposed metal parts highly polished and nickel plated. Size of cabinet at base, 16¼x15¼ in. Height 12 in. Finished in mahogany.
Each..... 12.50



Model A4 **The Campophone Portable Talking Machine.** A portable machine that can be enjoyed anywhere and carried with less trouble than an ordinary suitcase. Size, 16x13¼x8 inches. Covered with fine quality seal grain karatol, leather protected corners, brass side catches with lock and key. Leather handle. A scientifical amplifying sound chamber that produces a rich, clear tone equal to the highest priced machine. Equipped with record cabinet. Will hold 15 to 20 10-in. or 12-in. records. Plays any make of disc records and reproduces them perfectly. Universal nickel plated tone arm and sound box, for which a special compartment is provided when not in use. Wood parts finished in rich mahogany. Total weight about 15 lbs.
Each..... 13.75

Model A5 **Metropolitan Talking Machine.** Equipped with extra strong motor. Universal tone arm, which will play all makes of records without changing reproducer, 10-inch turntable. All exposed metal parts highly nickel plated and polished. Has sloping, gradually amplifying sound chamber, producing a tone rich in quality and volume. Handsome cabinet with hinge cover and lattice front. Finished in rich mahogany. Measures at base 17x19 in. Height 12¾ in.
Each..... 15.00

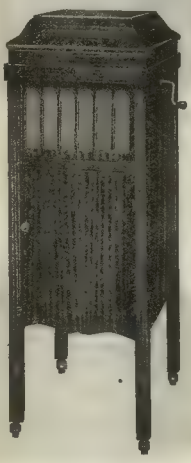
PARTS AND REPAIRS

We carry in stock parts for our machines and also repair our own make machines. When a part becomes broken, in order to save time and to assure yourself that the correct part will be received, pack it up and send it in to us and we will then know just what part you want. If we can repair same we will do so. A charge is made for all parts and also repair work.

Metropolitan Talking Machines

Universal Tone Arm—Plays Every Disc Record Made

These machines are especially made for us according to our specification. The workmanship, finish, and appearance will compare favorably with machines that are much higher in price. In richness and volume of tone it is unexcelled. Each machine is carefully examined and tested before it is shipped.



Model A6

Equipped with extra strong motor. Universal tone arm which will play all makes of records without changing reproducer. Fitted with needle receptacle, positive brake and speed indicator. Has sloping gradually amplifying sound chamber which produces a tone rich in quality and volume equal to that of much higher priced machines. Beautiful cabinet, size 17x17 inches, 40 inches high. Hinge cover. Mahogany finish. Retail value, $50.00.
Each, including war tax **24.50**

Model A7

Equipped with extra strong double spring motor; will play about three 10-inch records with one winding; can be wound while playing. Universal tone arm, which plays any make records without changing reproducer. Fitted with needle receptacle, speed indicator and regulator, tone modifier, 12-inch turn table. All metal parts highly nickel plated and polished. Hand rubbed mahogany finish cabinet, 44 inches high, 21 inches deep, 15⅝ inches wide. Retail value, $110.00.
Each including war tax..... **47.50**

SHURE THE WINNER PRICE LIST

Metropolitan Talking Machines

Universal Tone Arm—Plays Every Disc Record Made

TONE QUALITY

The tone of the Metropolitan is marvelously sweet, full and rounded. It is capable of great volume, yet the ease with which the sound is controlled makes it suitable for use even in a small room. This handsome design makes an instant appeal to all lovers of the beautiful. It delights the eye and ear alike. It is a musical instrument of wonderful charm.

Extreme care has been taken, even in small details, to make this model supreme in appearance, no less than in musical quality. With its sweet and extraordinary deep and mellow tone, its marvelous volume of sound and its quiet running motor, the Metropolitan is a triumph, mechanically.

Specifications. The Metropolitan is more than a musical instrument. It is a fine piece of furniture. The beautifully modeled cabinet is made of mahogany, hand rubbed and finished, 40 inches high, 22½ inches deep and 19¼ inches wide, with cabinet arranged with shelves to hold more than 100 records.

The Motor. No matter how perfect a talking machine may be in all other respects, it cannot give satisfaction unless the motor works perfectly. It must run quietly, with even speed; it must wind easily and silently, and it must possess ample power.

Every part is made with the utmost care, every gear is accurately cut, every bearing is true. Assembled by workmen who understand the peculiar and unusual requirements of talking machine motors, and are near mechanically perfect as it is possible to make them.

Capacity. Plays three 12-inch records or five 10-inch records through with unvarying speed with one winding.

Transmission. Silent gears of special form cut by hobbing method.

Governor Drive. Worm gear of most approved construction and highly finished steel worm of special design.

Construction. Close grained grey-iron casting frame and bottom plate, all heavily black enameled and absolutely rust proof.

Springs. Two springs of carefully selected stock, perfectly tempered and completely enclosed and operating in lubricant.

Turntable Shaft. Tapered shaft of special steel, running in automatically lubricated bearings.

Speed Regulator. Operated from tabulator on motor board. Adjustment convenient and accurate.

Wind. Bevel gear type of special design with lock-nut feature on intermediate winding shaft.

Tone Arm. Our new universal ball bearing tone arm permits the playing of disc records of any make and it plays them with all the purity and naturalness of tone the record is capable of yielding. By simply turning the sound box on a swivel joint it will play perfectly either vertical or lateral disc records. Manufactured from the highest grade selected materials with the finest India Ruby Mica Diaphragms, and tested by expert musicians.

As to appearance finish and tone quality, it is equal to any $135.00 machine

MODEL A8 — **Metropolitan Talking Machine Each-Including War Tax** — **59.50**

Metropolitan Talking Machines

Universal Tone Arm—Plays Every Disc Record Made

TONE is the one and all important thing in a Talking Machine—the real musical tone, the tone that is found in the Metropolitan. The Metropolitan not only has tone, but is most pleasing in appearance, graceful and ornamental and it fully meets your expectations in design and finish.

When you hear the Metropolitan you will marvel that all music can be reproduced with such absolute fidelity. It is just as though these famous musicians from all over the world had come to your home. You can almost feel their presence as they sing and play. Their living personalities are right before you, so perfectly does the Metropolitan reproduces every note, every delicate shading of tone, every characteristic of the artist.

Specifications. The handsomely modeled cabinet is made of mahogany, hand rubbed and highly polished and beautifully finished, is 51 inches in height, 24 inches deep and 22 inches wide, large double hinged doors, space fitted with shelves to accommodate several hundred records.

The Motor. All the new and improved features that have proven successful and beneficial are incorporated in this motor, which is of the latest design of mechanical equipment.

Capacity. Plays three 12-inch or five 10-inch records with unvarying speed with one winding.

Construction. Close grained grey iron casting frame and bottom plate-spring barrels, black enameled and rust proof.

Springs. Two springs of selected stock perfectly tempered, completely enclosed and operating in lubricant.

Transmission. Silent gears of special form cut by the hobbing method.

Governor Drive. Worm gear of most approved construction and highly finished steel worm of spiral design.

Turntable Shaft. Tapering shaft of special steel, fitted with a felt covered turntable

Speed Regulator. Operated from tabulator on motor board. Adjustment convenient and accurate.

Wind. Bevel gear type of special design with lock-nut feature on intermediate winding shaft

Tone Arm. The ball bearing tone arm is the result of extensive research and long years of experience. For beauty of lines and highest quality of tone reproduction, this tone arm cannot be improved. It is universal in every meaning of the word, simply turn the sound box on a swivel joint and it will play perfectly either vertical or lateral cut records. Equal to any machine retailing for $175.00.

MODEL A9 Metropolitan Talking Machine Each-Including War Tax **67.50**

N18263 N18269

Per doz.

N18258—EXCELSIOR STUFFED BODY DOLL—Outside jointing, dressed in assorted striped and figured materials, stub arms, composition head with painted eyes and features. Height 12 inches. Packed 2 dozen in box..... 1.92

N18259—BOYS AND GIRLS ASSORT. ED—Excelsior stuffed body, imitation shoes, assorted striped material dresses trimmed with bolt Composition hands and head with painted eyes and features. Size 11½ inches. Packed 1 dozen to box, assorted ... 2.10

N18214 N18217

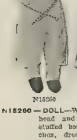
Per doz.

N18214—DOLL—Excelsior stuffed, colored gingham dress with wide skirt, trimmed collar, composition head and hands; height 11 inches; a good doll 6.00

N18215—DOLL—Composition head and hands; painted hair, eyes and features; excelsior stuffed body; lace trimmed gingham dress, height 11 inches 6.00

N18216—DOLL—Composition head and hands, painted hair, eyes and features; excelsior stuffed body; fancy gingham dress with wide collar, height 15 inches; 14 dozen to box, not broken 6.00

N18217—ROMPER BOY—Composition head and hands. 14 dozen in box 6.00



N18259 N18213

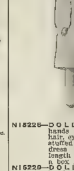
Per doz.

N18260—DOLL—With unbreakable head and hands, excelsior stuffed body, length 16 inches, dressed in gingham alls. 2 dozen in a box, not broken 2.25

N18213—GIRL DOLL—Composition head, middy suit, height 17 inches. 1 dozen in box 4.25

Per doz.

N18261—GIRL DOLL—Dressed in assorted colored lawn dresses trimmed with white braid and collar effect of white shirring. Excelsior stuffed body with imitation shoes. Composition hands and head with painted eyes and hair wig. Height 14½ inches 4.25

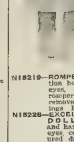


N18226 N18228

Per doz.

N18226—DOLL—Composition head, hands and shoes, mixed hair, eyes and features, cork stuffed body, fancy lawn dress with wide collar; length 15 inches. Each in box 2.00

N18229—DOLL—Composition head, hands and shoes, painted hair eyes and features, figured lawn dress lace trimmed; height 18 inches. Each in a box 3.00



N18218 N18231

Per doz.

N18218—BABY—Painted hair and eyes, composition head, hands and jack short waist dress lace trimmed, removable stockings. Height 11½ inches 6.50

N18219—ROMPER BABY—Composition head painted hair and eyes, composition hands, romper suit with knitted cap, removable shoes and stockings. Height 13½ inches 9.00

N18228—EXCELSIOR STUFFED DOLL—Composition head painted hair and eyes, composition shoes, figured dress with large lace trimmed collar. Height 18 inches. Each in box 3.00

N18085 N18240

Per doz.

N18083—G R. DOLL—Dressed in fine striped Nuun dress trimmed with lace edging, lace collar and cuffs and waistcoat of same material. Height 10 inches 9.00

N18085—GIRL DOLL—Dressed in assorted colored flowered and checked lawn dresses with large Dutch collar of white lawn edged with lace, lace collar and cuffs large assortment of white lawn yoked caps, trimmed to match dress edged with lace. Height 19 inches..... 9.00

N18084 N18086

Per doz.

N18084—G RL DOLL—Dressed in white dotted Swiss dress trimmed with lace collar and cuffs, baby cap edged with lace to match with pink and blue tied strings. Height 10 inches 9.00

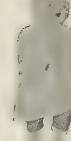
N18227

Per doz.

N18227—BOY DOLL—Cork stuffed body, adjustable head, painted hair and eyes, white sewed on stockings and shoes, removable shoes, fancy figured lawn rompers, large white collar and belt, height, 18 inches 9.00

N18223—GIRL DOLL—Fine cork stuffed body, adjustable head, painted hair and eyes, composition hands white sewed-on stockings, painted composition shoes, height, 18 inches, figured lawn dress with white collar, white undergarment 9.00

N18240—BABY DOLL—Cork stuffed body painted hair and eyes, composition hands removable crocheted bootees, white lace trimmed dress and cap to match height, 13 inches... 9.00



N18240

Per doz.

N18224—BABY DOLL—Composition head and hands cork stuffed body, bent legs mohair wig, painted eyes and features, romper dress; removable stockings and cap, height 12½ inches 9.00

N18230—BABY short white dress, lace trimmed cap to match, unbreakable head and hands, painted eyes and wig, open and shut eyes, with removable stockings. Length 14 inches. Each in box..... 9.00

Each

N18241—BABY DOLL—With composition head and hands; mohair wig, painted eyes and features; cork stuffed body, bent legs; short white dress lace trimmed, and lace trimmed cap to match; height 12 inches 1.00

N18086

Each

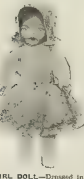
N18086—GIRL DOLL—Dressed in striped Zaxon dress trimmed with assorted colored print and blue lawn collar and cuffs sunbonnet of flowered muslin, stockings and shoes, height 15 inches 1.00

Each

N18088—GIRL DOLL—Dressed in assorted flowered and striped lawn dresses with large Dutch collar of same material edged with lace, lace collar and cuffs, cap of sailcloth, removable shoes and stockings. Height, 19 inches 1.00

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

With Painted Hair



N 15087—GIRL DOLL—Dressed in assorted colored flowered lawn dresses with attached bonnet, under stamps to match. White lawn guimpe trimmed with lace collar and cuffs, pasked underskirt of assorted flowered material to match dress. Height 12 inches..... 1.00 Each

N 15092

N 15088—GIRL DOLL—Dressed in fine dresses of assorted colored flowered designs in ratine and silks, trimmed with lace collar and cuffs, pasked underskirt, white lawn baby cap pasked with self-material and edged with lace, height 14½ inches ..... 1.25 Each

N 15090

N 15090—GIRL DOLL—Dressed in assorted colored figured and striped lawn dresses, trimmed with lace collar and cuffs, white lawn apron, bonnet of solid colored material to match, edged with lace, height 14½ inches 1.25

N 15091

N 15091—GIRL DOLL—Dressed in assorted colored fine striped dresses with broad white sash, pasked leather belt with gilt buckle, large pasked sunbonnet of same material to match dress, height 14½ inches 1.25

N 15092-12

N 15092 GIRL DOLL—Dressed in fine assorted colored pink and blue striped dresses, trimmed with wide collar and cuffs, solid colored pink and blue Eton pasked with broad lace trimmed collar, large pink and blue lawn hat pasked with striped material to match dressing, height, 16 inches ..... 1.75 Each

N 15095 GIRL DOLL—Dressed in fancy pink and blue lawn dress trimmed with lace, lace edge collar and cuffs and pasked of fancy open work lace, large turned back hat to match, height 16 inches.. 1.75

N 16220 12

N 16220—GIRL DOLL—Lace trimmed white dress, straw hat, unbreakable head and hands painted eyes, with wig; composition shoes, height, 14 inches, each in box..... 5.00 Per doz.

N 16221—Same as N16220 lace trimmed checkered gingham dress 8.00

N 16222—GIRL DOLL—Cork stuffed body, unbreakable head, with mohair wig and painted eyes, composition hands white sewed-on stockings painted garters, white lawn dress, fancy dress lace trimmed, single undergarment, straw hat with pink bands around crown height 14 inches .. 8.00

N 15223

N 15223—BABY DOLL—With short white lace trimmed dress, lace trimmed cap to match, colored jacket trimmed with lace; removable shoes and stockings, unbreakable head and hands, painted eyes, mohair wig ..... 8.00 Per doz.

N 16230

N 16230 CORK STUFFED DOLL—Colored dress, lace trimmed, with lace trimmed cap to match, removable shoes and stockings, unbreakable head and hands, painted eyes, height, 13½ inches; each in box 9.00

Early orders for
Holiday Goods
insure the greatest variety. Send in your orders while our stock is complete.

DOLLS WITH MOHAIR WIGS

N 15097 N 15100

N 15096—GIRL DOLL—Dressed in assorted colored flowered and striped fancy dresses with lace collar and cuffs, lace bonnet of white lawn pasked with flaxen material to match dressing, edged with lace bonnet, 12 inches, with, mohair wig ..... 10.80 Per doz.

N 15097—GIRL DOLL—Dressed in assorted colored flowered and striped fancy designs with pink and blue lawn trimmed with lace collar and cuffs, sunbonnet of pink and blue lawn pasked with flaxen material to match dress to height, 12 inches, with mohair wig 10.80

N 15098—GIRL DOLL—Dressed in assorted colored and flowered and striped lawn dresses, attached to white lawn guimpe, broad round collar to match, skirt, sunbonnet baby cap of white lawn pasked with material to match dressing, height, 16 inches, with mohair wig 10.80

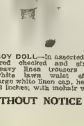
N 15099—GIRL DOLL—Dressed in assorted colored flowered dresses with solid colored Dutch effect collar, lace collar and cuffs, baby cap of solid colored pink and blue lawn pasked with flaxen to height, 16 inches, with mohair wig 10.80

N 15100—GIRL DOLL—Dressed in white dotted Swiss dress, trimmed with lace collar and cuffs baby cap edged with lace to match, with pink and blue tied strings, height, 12 inches, with mohair wig..... 10.80

N 15211

N 15211—ALL COMPOSITION SANITARY DOLL—Fine fancy gingham dress, lace trimmed painted eyes mohair wig with ribbon tied around forehead removable shoes and stockings height 12 inches each in box..... 1.00 Each

N 15211



N 16230-12

N 16161—BOY DOLL—In assorted colored checked and striped heavy linen suits, with white lawn waist effect, large white linen cap, height, 13 inches, with mohair wig... 1.40 Each

N 15104

N 15104 GIRL DOLL—Dressed in fine assorted colored flaxen striped dress with lawn collar effect of solid colored lawn edged with lace lace collar and cuffs sunbonnet piped with same material with turned back of solid colored pink and blue lawn edged with lace, mohair wig, height, 15 inches..... 1.40 Each

N 15103

N 15103—GIRL DOLL—Dressed in fancy striped lawn dress with assorted pink and blue Dutch yoke piped with satin colored pink and blue lawn and edged with lace, solid lawn trimmed with assorted figured flaxen to match dress and edged with lace, mohair wig height 12 inches.. 1.40 Each

N 15102

N 15102—GIRL DOLL—Dressed in assorted lawn dresses of pink and blue, trimmed with ribbon and cuffs and piped with lace edging, composition hands and stockings, composition hands and head with painted eyes and features, mohair wig baby cap of same material to match dressing, height 12 inches..... 1.40 Each

N 15108—GIRL DOLL—Composition head and hands, cork stuffed body, mohair wig, painted eyes and features, figured lawn dress with large white collar, cap to match, removable shoes and stockings, height 12 inches..... 1.40

N 15106—GIRL DOLL—Composition head and hands, cork stuffed body, mohair wig painted eyes and features, dotted Swiss dress, lace trimmed cap to match, removable shoes and stockings, height 12 inches..... 1.40

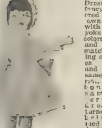
N 15210—ALL COMPOSITION DRESSED DOLL—Jointed arms and legs mohair wig; painted eyes and features; colored lawn dress trimmed with lace lace trimmed cap to match dress, lace trimmed under garments, removable shoes and stockings, height 12 inches 1.50

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

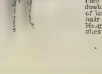
N15107—GIRL DOLL. Dressed in fancy pink and blue checked gingham dress with white lace collar and cuffs, over-apron skirt of white lawn, finish collar edged with lace and lace piping. Large sun-bonnet with turned back peak to match dressing mohair wig, height, 14 inches ... 1.00 Each

N15108—GIRL DOLL — Dressed in white dotted Swiss green and cotton and cuffs, fancy collar and cuffs, fancy turned back bonnet of same material as dress, assorted colored pink and blue ribbon tied strings, mohair wig, height, 14 inches... 1.60 Each

N15109 GIRL DOLL—Dressed in pink and blue fancy check with suspender straps to match, assorted colored floral flake trimmed bonnet to match, with ribbon bow and streamers, mohair wig, height, 14 inches... 1.60 Each

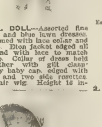


N15109 GIRL DOLL. Dressed in pink and blue fancy check with suspender straps to match, assorted colored floral flake trimmed bonnet to match, with ribbon bow and streamers, mohair wig, height, 14 inches... 1.60



N15110—GIRL DOLL—Dressed in fine pink and blue lawn dress, trimmed with lace and insertion, full skirt, with lace edged ruffle around with lace to match sash. Collar of dress held together with gilt clasp, fancy baby cap, edged with lace and two side rosettes. Mohair wig. Height 14 inches ... 2.15 Each

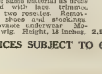
N15111 14



N15112—GIRL DOLL—Dressed in fine assorted colored pink and blue striped flaxen dress trimmed with lace collar and cuffs, fancy colored pink and blue Eton jacket with broad braid trimming, fancy colored plaid and blue sash tie, looped with striped flaxen material to match dress. Mohair wig. Height, 18 inches ... 2.15 Each

N15113 14

N15113—GIRL DOLL—Dressed in assorted pink and blue gingham dress trimmed with lace, Dutch collar, fancy Swiss guimpe trimmed with lace and insertion, fancy colored plaid sash, mohair wig, packed with assorted pink and blue gingham to match dressing. Fine quality lawn underwear trimmed with lace edging. Mohair wig. Height, 19 inches ... 2.90 Each



N15114—GIRL DOLL—Dressed in assorted colored lawn dresses with flounce effect of same material and cotton. Bonnet to match and cotton. Bonnet of same material edged with lace, trimmed with two gold baby pins. Fancy shaped hat of same material as dress edged with lace trimmed with two rosettes. Removable shoes and stockings. Mohair wig. Height, 18 inches. 2.90

N15115—GIRL DOLL—Dressed in fine quality dotted Swiss dress trimmed with double flounce piped with pink and blue baby ribbon, lace collar, baby ribbon sash to match of pink and blue satin. Large hat to match dressing, with large band of pink and blue satin with rosette. Mohair wig. Height, 18 inches ... 2.90 Each

Moving Eyes—Painted Hair

N.15.47 N15157

N15148—MIDDY GIRL—Happy smiling countenance; white middy blouse, gingham skirt and sailor collar, neatly trimmed with braid, kid body, jointed at shoulder, hands unsupported height, 12 inches ... 0.75 For the

N15147—BOY—Beautiful boy in sailor suit and hat; neatly trimmed knitted reversible tongue, composition feet; stands up unsupported; height, 12 in ... 0.75

N15149—BOY—In rompers with knit red tongue, pleasing features, has imitation white stockings and composition shoes stands up unsupported height 15 inches ... 0.50

N15146—GIRL—Very pleasing smiling face, dressed in assorted colors gingham dress with white collar, trimmed with lace, white hat, wears knitted tongue, imitation white stockings, composition shoes height, 13 inches ... 0.50

N15137—BABY—In white lawn dress long to reach end of toes, fine lace trimmed, with white muslin cap height 14 inches ... 0.75

N15150—BABY—White lawn dress and sleeves, lace trimmed with fine lace and rosettes to match, has open mouth and sucker, fine baby-pink feet with white stockings, height, 18 inches. 0.50

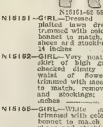
N15150—SCHOOL BOY Very pleasing chap, dressed in neat two-piece suit and knitted reversible tongue, removable shoes and stockings, height 11 inches ... 1.00 Each

Moving Eyes—Painted Hair

N15151-GIRL Dressed in white plaited lawn dress, neatly trimmed with colored ribbon, bonnet to match, removable shoes and stockings, height 14 inches ... 1.00 Each

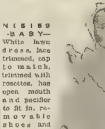
N15152—GIRL—Very neatly dressed, skirt of high grade white checked cloth with hem, waist of flowered lawn, trimmed with ribbon, white hat to match, removable shoes and stockings, height, 14 inches ... 1.00

N15155—GIRL—White gown dress trimmed with colored ribbon, bonnet to match removable shoes and stockings height 11 inches ... 1.40



N15153—SCHOOL GIRL—Gulmpe dress with Peter Pan collar white waist and assorted colors French linen dress, neatly trimmed, wears sunbonnet, removable shoes and stockings, height, 14 inches. 1.00 Each

N15156—GIRL—Colored flowered lawn dress with white dimity round collar, trimmed with lace, hat to match removable shoes and stockings height, 18 inches ... 1.40 Each



N15152—BABY—White lawn dress, lace trimmed, cap to match, trimmed with rosettes, has open mouth and pacifier to fit in, removable shoes and stock-ings, height 15 inches. Each 1.40

Moving Eyes—Mohair Wig

N1161 — FANCY GIRL WITH GENUINE MOHAIR WIG—Size of face 3½ inches. Head of young girls, dressed in assorted colors organza dress, with ribbon trimmed, knitted mercerized cloth, composition shoes and stockings; height 14 inches. Per doz. 11.40

N1162 Per doz.

N1160—MIDDY GIRL—Has a very pleasing face of young girl, real mohair wig, dressed in white middy blouse, plaidskirt and sailor collar, neatly trimmed with red and white mercerized tape, composition shoes, stands up unsupported, height 12 inches..... 11.40 Each

N1162—GIRL WITH REAL MOHAIR WIG—Very pleasing smiling face, dressed in assorted color gingham dress, with plaid or collar trimmed with lace while ball with brass button, wears a sunbonnet, imitation white stockings, composition shoes, height 13 inches 1.00

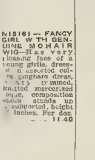
N1163—GIRL WITH REAL MOHAIR WIG—Dressed in white waist, skirt and cape collar of flowered lawn, neatly trimmed with lace underdress to match, has imitation white stockings and composition shoes, stands up unsupported. Height 13½ inches 1.00

N2154 Each

N1164—GIRL WITH REAL MOHAIR WIG—Short of thigh great white checked dimity trimmed with lace and under of flowered lawn, white cuffs and collar, trimmed with lace, tucked, removable shoes and stockings, height 14 inches 1.30

N1165—GIRL WITH REAL MOHAIR WIG—Dressed in white lawn dress trimmed with assorted colors ribbon, wears a bonnet, has removable shoes and stockings, height 14 inches. 1.30

N1166—SCHOOL GIRL—With real mohair wig, dressed in white with Peter Pan collar, white waist and French Lace dress, assorted colors, sailor trimmed, sunbonnet, removable shoes and stockings, height 14 inches..... 1.30



N1167 Each

N1169—GIRL WITH CURLY WIG and full round hair, very pretty dressed skirt of high grade white checked dimity trimmed with lace and insertion, white cuffs and collar, pointed collar lined with red, white hat to match removable shoes and stockings, height, 14 inches 1.30

N1167—GIRL—With curly, curling fuzz frame in the forehead, has pasted right over ear-shaped ears, dressed in checked gingham trimmed with colored edging, real mohair wig, with removable shoes and stockings; height 14 inches 1.75

N1168—BEAUTIFUL GIRL—With real mohair wig and beautiful dresses, with silk sash, dress with silk sash, dress with silk sash, dress

ONE MAN SAWS.

PAGOMA

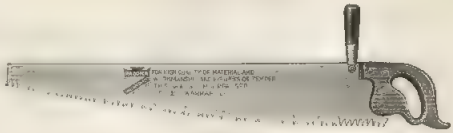
Made of Finest Grade of Saw Steel, Tempered in Oil, Filed and Set by Hand.

POLISHED AND ETCHED.

These saws are taper ground, being thinner at top edge than on cutting edge, which prevents binding and causes the saw to run lighter

Every Saw is Carefully Tested Before Leaving Factory.

FULLY WARRANTED.

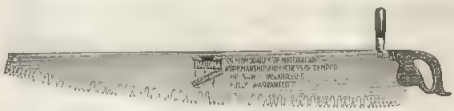


TUTTLE TOOTH.

Beech Handle with Varnished Edges, and Four Brass Screws, Beech Supplementary Top Hand

NOS.	173	173½	174	174½	175	175½
Length	8	8½	4	4½	5	5½ ft
Weight each	4	4½	5	6	6½	7 lbs
Net each	$4.50	5.26	6.00	6.70	7.40	8.10

COMPLETE WITH ONE EACH NOS. 1 AND 2 ONE MAN SAW HANDLES.



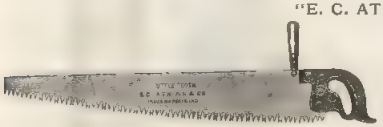
"VICTOR" TOOTH PERFORATED.

Beech Handle with Varnished Edges, and Four Brass Screws, Beech Supplementary Top Handle.

NOS.	183	183½	184	184½	185	185½
Length	3	3½	4	4½	5	5½ ft
Weight each	4	4½	5	6	6½	7 lbs
Net each	$4.84	5.60	8.40	7.20	8.00	8.70

COMPLETE WITH ONE EACH NOS. 1 AND 2 ONE MAN SAW HANDLES.

"E. C. ATKINS & CO."



TUTTLE TOOTH.

Special Steel, Beech Handle With Varnished Edges, and Four Brass Screws, Beech Supplementary Top Handle.

NO. 390—Length	3½	4	4½	5 ft.
Weight each	4½	5	6	6½ lbs
List each	$1 95	2 24	2 52	2.80
Net each	$5 80	6 60	7 40	8.30

"VICTOR" TOOTH. PERFORATED.

Special Steel, Beech Handle with Varnished Edges, and Four Brass Screws, Beech Supplementary Top Handle.

NO. 392—Length	3	3½	4	4½	5	5½ ft.
Weight each	4	4½	5	6	6½	7 lbs
List each	$1 92	2 24	2.56	2 88	3.20	3.62
Net each	$5.80	6 70	7 70	8 60	9 60	10.60

COMPLETE WITH ONE EACH NOS. 1 AND 2 ONE MAN SAW HANDLES.

"PAGOMA" Tools and Cutlery are high in quality and workmanship.

For Nearly a Century the Store of Service.

LANTERNS

PIONEER LANTERNS

STREET

Fig. 27054A

HANGING

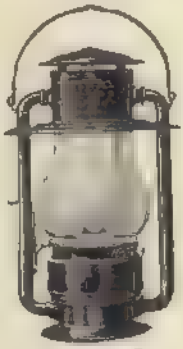


Fig. 27054B

The standard of the U. S. Government and many railroads

May be filled, lighted and regulated from the outside

Style	Street	Hanging
Light	c. p.	22	22
Wick	inches	1½	1½
Capacity	hours	24	24
Price	per doz.	109.80	120.00

HY-LO HOT BLAST

Fig. 27054C

VICTOR HOT BLAST

Fig. 27054D

Contractors and other large users are their heartiest endorsers

Victor with Dietz Security Standing Bail patent brass eyelets.

Style	Hy-lo	Victor
Light	c. p.	4	4
Wick	inches	5/8	5/8
Capacity	hours	18	19
Price	per doz	14 00	14.00
" Globes	"	.....	.....
" Burners	"	....	....

BEACON WALL

Fig. 27054E

No. 25 WALL LANTERN

Fig. 27054F

Beacon Wall, Nos. 30 and 60, with large fluted reflectors.

No. 25 Wall. For use as a platform and station lantern

Style	30	60	No. 25 Wall
Light	c. p.	50	100	100
Wick	inches	1	1½	1
Capacity	hours	35	30	17
Price	per doz.	46.50	132 00	42.50

MONARCH HOT BLAST

Fig. 27054G

JUNIOR COLD BLAST

Fig. 27054H

Monarch has same constructive features as the Victor

Junior patent wing lock burner, only 12 inches in height

Style	Monarch	Junior
Light	c. p.	4	6
Wick	inches	5/8	5/8
Capacity	hours	18	13
Price	per doz.	14.00	15.30
" Globes	"	....	....
" Burners	"	.....	.....

LANTERNS

Fig 27052A

Fig. 27052B

Both are cold blast and wick is exposed for trimming and lighting. Little Wizard has short globe.

Style	No 2 Blizzard	Little Wizard
Volume, c. p.	10	6
Wick, inches	1	5/8
Capacity, hours	20	18
Price, per dozen	21.60	17.50
" Globes, "		
" Burners, "		

Fig. 27052E

Fig. 27052F

Both hot blast. Underwriters' Mill Lanterns approved by inspection department. Hinged guard may be locked.

Style	Underwriters' Mill	Buckeye Dash
Volume, c. p.	4	10
Wick, inches	5/8	5/8
Capacity, hours	23	19
Price, per dozen	41 20	21 60
" Globes, "		
" Burners, "		

Fig. 27052C

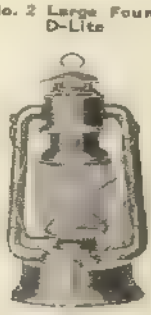


Fig 27052D

Both cold blast and wicks easily perfect and fitted with Loc-Nob short globes, easiest to handle

Style	No 2 D-lite	Large Fount D-Lite
Volume, c. p.	10	10
Wick, inches	1	1
Capacity, hours	20	40
Price, per dozen	21 60	23 75
" Globes, "		
" Burners, "		

Fig. 27052G

Fig. 27052H

Watchman's Mill Lanterns, steel clad. Burns signal oil; red enamel finish. Junior Wagon Lanterns, shows danger signal in rear, in accordance with night driving laws.

Style	Mill	Wagon
Volume, c. p.	2	10
Wick, inches	1	5/8
Capacity, hours	24	13
Price, per dozen	37.50	27.50
" Globes, "		
" Burners, "		

Write us Your Requirements for Goods Not Listed.

For Nearly a Century the Store of Service.

LANTERNS

RAILROAD LANTERNS

No. 39 STANDARD

Fig. 27053A

No. 39 VULCAN

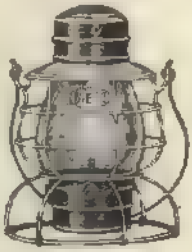


Fig. 27053B

No. 39 Standard, with No. 1 extra screw ratchet burner. With double guard Burns signal oil

No. 39 Vulcan, with No. 1 extra screw ratchet burner. With double guard Burns signal oil

Style	Standard	Vulcan
Light ..... c. p.	2	2
Wick ..... inches	1	1
Capacity ..... hours	24	24
Price ..... per doz.	27.50	28.00
" Globes "	.	...
" Burners "		..

RAILROAD LANTERNS

REAR SIGNAL

Fig. 27053E

IDEAL

Fig 27053F

Rear Signal. A standard bracket is provided which fits the standard railroad socket. Ideal inspectors cold blast, with bail for carrying on arm and non-heating grip handle.

Style	Signal	Ideal
Light ..... c. p.	2	15
Wick ..... inches	1	5/8
Capacity ..... hours	24	18
Price ..... per doz.	51.00	38.50
" Globes .. "	.....	.....
" Burners .. "	...	

RAILROAD LANTERNS

No. 39 STEEL CLAD

Fig. 27053C

VESTA

Fig. 27053D

No. 39 Steel Clad, with No. 1 extra screw ratchet burner. With double guard Burns signal oil. Vesta Cold Blast performs the functions of old-time signal oil lanterns in a superior way

Style		39	Vesta
Light	c. p.	2	3
Wick	inches	1	3/4
Capacity	hours	24	16
Price	per doz.	28.50	33.30
" Globes	"		
" Burners ..	"		

RAILROAD LANTERNS

INSPECTORS' ACME

Fig. 27053G

TRACK WALKERS' PROTECTOR

Fig 27053H

Both styles are hot blast and strongly made. Provided with grip handles and burn kerosene

Style	Acme	Protector
Light ..... c. p.	20	10
Wick ..... inches	5/8	5/8
Capacity ..... hours	20	20
Price ..... per doz.	38.50	48.50
" Globe . "	.....	..
" Burners "		

COLEMAN QUICK-LITE GASOLINE LAMPS AND LANTERNS

No. CQ 329 Lamp

Fig. 40530A

No. LQ 327 Lantern

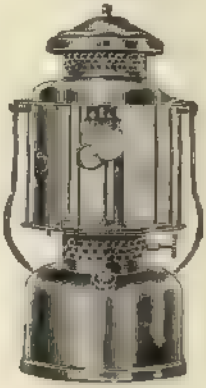


Fig. 40530B

COLEMAN QUICK-LITE LAMPS AND LANTERNS

These lamps produce a 300-candle power strong, pure white light. Brighter than 20 old style oil lamps and lanterns. They are absolutely safe and cannot spill fuel or explode or tip over. They cannot be filled while lighted. No greasy wick to trim and no dirty chimney to wash. No smoke, soot nor odor.

Cost less than one-half cent per hour to burn. Make and burn their own gas light with mantles. Lamp holds 3 pints and burns 18 hours on one tank. Lantern holds one quart and burns 12 hours with one tank. Made of brass, heavily nickeled and highly polished.

These lamps take a No. 41 Junior mantle. All lamps are 22 inches in height.

Packed one in carton complete with shade, two mantles, pump, wrench, hanger, cleaning pick and extra generator. The table lamp weighs 10 pounds, the lantern 6 pounds.

Price, No. CQ 329 Lamp	..... each	13.80
" " CQ 307 " with White Ribbed Shade	..... "	13.80
" " LQ 327 Lantern	..... "	12 00

No. BQ 307 BRACKET LAMPS

Fig. 40530C

The handy light for rooms with low ceilings, in halls, bathrooms, kitchens, over desks, etc. Can also be used as wall or table lamp. Furnished with white ribbed shade. Weighs 9 pounds.

Price ..... each 13.50

NOTE.—Parts for the above lamps carried in stock.

Write us Your Requirements for Goods Not Listed.

PONY LAWN MOWERS.

ENDERS WINNER*, BALL BEARING; PONY.

Ball Bearings make them of light draft and easy running.

Wide Construction, gives great capacity, covering a large lawn very quickly.

ENDERS WINNER*, Painted Dark Blue and Gold; Phosphor Bronze Reel Bushings.

Adjustable to cut grass to a Height of ¾ to 1¾ in. Will cut grass standing about 7½ in. High.

DIAMETER OF DRIVE WHEELS 11 IN.

No. E1531—Width of Cut, 31 in.; Diameter of Reel, 7 in.; Extreme Width, 38 in.; Weight each about 140 lbs. ..... Each, $112.00

One in a Crate.

LOW PRICE, little higher than a good small Mower.

Extra Strong Cast Iron Side Frames and Bed Plate; Crucible Steel Laid Self-sharpening Reel Knife, with Outside Rocking Adjustment; Heavy Spoke Flange Raised Drive Wheels; 1¾ in. Tread; ⅝ in. Steel Axle; Improved ⅝ in. Front Bar; Four Tempered Steel Revolving Blades, with Malleable Reel Braces Direct Gearing, with Hardened Pinions and Ratchets; Double Steel Handle Braces, with 40 in. Varnished Hardwood Handle and Handle Bar; Single-tree Draft Attachment and Single Tree, for Pony or Horse.

EXTRA PARTS FOR LAWN MOWERS NOT CARRIED IN STOCK CAN ONLY BE FURNISHED BY BEING SHIPPED DIRECT FROM FACTORY.

LAWN TRIMMERS.

KEEN KUTTER Double Gear. Ball Bearing.*

Cut shows Smooth Right Side Plate.

Highest Grade Cast Side Frames, Spoke Flange Raised Drive Wheels, Gear Casings and Bed Plate, all Thoroughly Braced and Reinforced; Highest Grade Crucible Steel Oil Tempered Revolving Knives and Adjustable Bed Knife, Securely Screwed to Reinforced Bed Plate; Malleable Reel Braces and Adjustable Roller Brackets; Cast Drive Wheel Bearing and Steel Ball Bearing Reel Axle; Gearing on one Side, Double Sliding Steel Pin Ratchet; Simple and Strong Rocking Adjustment for Lower Steel Bed Knife, worked from Lower Side. Steel Handle Braces; Extra Varnished 39 in. Clear White Maple Handle and Hardwood Roller 1¾ in. in Diameter; All Running Parts Carefully Milled; Metal Parts Extra Finished, Painted Crimson and Gold Bronzed.

Four Reel Knives; Front Bar ⅝ in.; Reel Axle ⅝ in.; Bearing on Drive Wheel Hub 1¾ inches; Adjustable to Cut Grass to a Height of ¾ to 1½ in.; Will Cut Grass Standing about 6 in. High.

DIAMETER OF DRIVE WHEEL 8½ IN.

	Each
No. KE—Width of Cut 3 in.; Diameter of Reel 5½ in.; Extreme Width 10½ in.; Weight each about 81 lbs.	$18.00

One in a Crate.

*Goods marked thus (*) are not carried in stock and can only be furnished by shipment direct from factory.

*HORSE LAWN MOWERS.

TOWNSEND'S TRIPLEX.

DIAMETER OF DRIVE WHEEL, 18 IN.

	Each
*No. T5E—Extreme Width 84 in.; Diameter of Reels 8 in.; Weight each about 600 lbs.	$800.00

Mowers Packed Singly in Crates; Framework Assembled in a Crate.

Contents of Three "Glorious" Mowers, each 30 in. Wide, Yoked Together, Two abreast in Front and One in the Rear; Cuts a Clean Swath 86 in. Wide; Rear Mower Operates on a Fifth Wheel and may pivot around a fixed Caster when turning; For Great Flexibility, there can be no Cramping; Extremely Light Draught, due to Ball Bearings; Excellence of Design, Material and Workmanship, One Small Horse can easily draw it; Three Levers at Driver's Right control the Cutting Apparatus—any one or all can be lifted from the Ground to avoid obstructions; is provided with Cast Saddle Seat 14x17 in., Elevated 30 in. on a Steel Spring Brace; Ample Wood Slat Foot Platform; 8½ ft. Shafts; Iron Tool Box with Tools and Oil Can.

Each Mower or Unit has High Grade Cast Iron Frame, Drive Wheels and Gear Casings; Imported Steel Ball Bearings of Large Diameter, Five Crucible Steel Revolving Knives, 7½ in. Wide, Bed Knife with Best Low Tool Steel Cutting Edges; Triple Compound Gearing of Large Diameter; Wooden Roller 3½ in. in Diameter; Indestructible Triple Ratchet; Machine can be Instantly Thrown in or out of Gear.

‡TOWNSEND'S.

High Grade Cast Iron Frame, Drive Wheels and Gear Casings; Four Crucible Steel Oil Tempered Revolving Knives and Adjustable Bed Knife. Malleable Reel Braces, Triple Geared on one Side only, with 11¼ in. Main Gear Wheels; Triple Cast Rollers, 18 in. in Diameter, each 3½ in. Wide, with Triple Pawls in each Roller; 7½ in. Front Caster Pattern Drive Wheels; Wood Slat Foot Platform, 7 in. Wide; Cast Saddle Seat, 14x17 in., elevated 39 in. on Steel Spring Brace; Convenient Lever, 35 in. Long, for instant changing of Height of Cut, also one 14 in. Long for throwing Cutting Knives out of Gear; Heavy Steel Axles and Front Cross Brace; 8½ ft. Shafts in Front; 40 in. Braced Steel Guide Handles in Rear

‡Townsend's, Horse; Triple Ratchet, with Shafts, Seat and Handles. Adjustable to cut grass to a height of ¾ to 2 in. Will cut grass standing about 6 in. high.

	T3D	T3E
Nos.	3	4
Width of Cut, inches	86	86
Extreme Width, inches	92	46
Diameter of Reels, inches	7	7
Weight each about, lbs.	670	700
Each	$230.60	231.50

One in a Crate.

THE CARE AND ADJUSTMENT OF THE *KEEN KUTTER** LAWN MOWERS.

DOUBLE GEAR (1909 MODEL).

EVERY MOWER IS PERFECTLY ADJUSTED when it leaves our factory, and no adjustment should be necessary for a long time, except that the jars they sometimes receive in transportation (often more than one freight cars) have a tendency to alter the adjustment. Long continued use may also render adjustment necessary. Don't meddle with any screws or nuts unless in use you find it necessary. It is especially important that screw CC (Fig. 1), which holds the frame-work together, shall not be touched, except to tighten it, if it becomes loose. If the Mower has been put out of adjustment, proceed exactly as indicated in the following instructions:

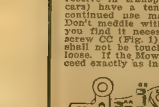


Fig. No. 1.
Showing Adjustment
(Mower Inverted).

ADJUSTMENT OF KNIVES.—The cutting action of a Lawn Mower is the same as that of a pair of Grass Shears; It accomplishes this work by means of a stationary blade Y (Fig. 1), and a reel or cylinder with knives on its periphery. A section of one of these knives, being shown at Z in Fig. 2.

1). When a Lawn Mower is in perfect condition, each of these cylinder knives should touch the lower blade (Y), at all points throughout its length. If these blades are too far apart, they will not cut. If too close together, the Mower will run hard, and knife (Y) will soon be dammed. If contact between blades (Y) and (Z) is not perfect throughout their entire length, the blades will become more worn at one part than another, and it will then be impossible to obtain the proper cutting, without regrinding. To adjust the knives, invert the Mower as in Fig. 1, turn the reel and observe each blade as it passes blade (Y) to ascertain where the blades require adjusting.

To bring blade (Y) closer to knife (Z), slightly loosen screw (BB) and correspondingly tighten screw (AA), TAKING CARE TO HAVE BOTH SCREWS TIGHT when blade (Y) is in proper contact with reel blades (Z) (they should gently touch). If blades are too tight, loosen screw (AA) and tighten (BB). The Adjustment may be verified by testing the knives with paper or grass at various points, turning the reel by hand.

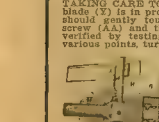


Fig. No. 2
Showing Application of
Pinions, Pawls, and
Bearings on Double Gear.

ADJUSTING THE BEARINGS.—After much use, the slight wear in the Bearings should be compensated for by the following adjustment: Place the Mower upside down, with the bearing cone shown in Fig. 2, to your right. Loosen screw E (Fig. 2), insert pin H in hole N of the cone F, and turn it slightly from you with one hand while moving the reel in its bearings, to determine just when the cone is close enough to the balls. It should just touch, so that the reel will run freely unless checked by contact with the blade Y. When adjusting the Ball Bearings, it is safer for an inexperienced hand not to use the balls

Y and Z (Fig. 1) slightly apart, and after the Bearings are adjusted the re-adjusted cones should be instructed TO BE SURE AND LEAVE SET SCREW E PERFECTLY TIGHT, AFTER THE BEARINGS ARE ADJUSTED.

OILING THE MOWER.—Oil the drive wheels, roller brackets, etc., every half hour, through the holes provided, using a good lubricating oil. To oil the ball bearings of the reel, place the Mower on its side and pour the oil in on the balls around cone F. Every once in a while a liberal quantity of kerosene (coal oil) should be supplied, to remove the gummy residues of oil from former operations. After this has been done, the Mower should be oiled thoroughly with good lubricating oil.

ADJUSTING TOOL AND GRASS LONG OR SHORT.—Raise the bracket RB, (Fig. 1), to cut shorter, lower it to cut longer.

SHARPENING.—When the Mower is quite dull it is best to send it to an experienced mower sharpener. It may, however, be sharpened as follows: Support the Mower with a box or block under the front axle, the roller resting on the floor or bench. Replace the pinion of the left side with the pinion of the right side, leaving the pawls CD in place. Then insert pin H through the hole in the large bevel thus adding a ratchet to turn the wheel. Put a thin paste of fine emery and oil on the lower blade, after adjusting it as in Fig. 1, and run the reel knives and then turn the wheel so as to cause the reel to run backwards until the knives are sharp. When the lower blade must be set properly again, the oil and emery wiped off and pinions returned to their proper places. When the lower blade becomes dull it may be sharpened by removing it and grinding the front bevel on a free stone (DO NOT TOUCH THE TOP PART OF THE BLADE), then replace and adjust.

GENERAL CARE.—Knives are through using the Mower, each time rub some vaseline or other grease on the blades and keep the Mower under cover as much as possible when not in use. A little care and attention will be well repaid in the better work which will do for you

LAWN MOWERS.

*KEEN KUTTER**

KEEN KUTTER DOUBLE GEAR, BALL BEARING.

Highest Grade Cast Side Frames; Spoke Flange Raised Iron Wheels, Cast Couplings and Steel Plate, all Thoroughly Braced and Reinforced; Highest Grade Crucible Steel Oil Tempered Revolving Knives and Adjustable and Self-sharpening Bed Knife, securely screwed to Reinforced Bed Plate; Adjustable Steel Braces and Adjustable Roller Brackets, with Hook Extension for Grass Catcher; Heavy Cast Drive Wheel Bearing and Steel Ball Bearing Reel Axle; Double Gearing on Both sides with Steel Bushed Hardened Gear and Double Sliding Steel Pin Ratchet; Double Screw Adjustment for Cones and Ball Retainer to Compensate for Wear; Simple and Strong Rocking Adjustment for Lower Steel Bed Knife, worked from Lower Side; Steel Handle Braces; Extra Varnished, 2½ in. Clear White Maple Handle and Hardwood Roller 2½ in. in Diameter; Patent Non-loosening Clamp Attachment for Handle Bar; All Running Parts carefully Milled; Metal Parts Extra Finished, Painted Crimson and Gold Bronzed

Double Gearing

Bottom View, Showing
Manner of Adjustment.

No. KNDH14 Series.

Sectional Cut of Ratchet
and Bearings.

KEEN KUTTER DOUBLE GEAR, HIGH WHEEL.

With Five Reel Knives; Front Roller Bar 1¼ in.; Reel Axle ⅝ in.; Bearing on Drive Wheel Hub 2¼ in. Adjustable to cut grass to a height of ⅝ to 1¼ in.; Will cut grass standing about 7 in. high.

DIAMETER OF DRIVE WHEELS 11 IN.

Nos.	KNDH14	KNDH16	KNDH18	KNDH20
Width of Cut, inches..	14	16	18	20
Diameter of Rad. In..	7	7	7	7
Extreme Width, in....	19¾	21¾	23¾	25¾
Weight each abt. lbs..	56	58	62	64
Each	$36.00	39.50	42.50	47.50

KEEN KUTTER DOUBLE GEAR, LOW WHEEL.

With Four Reel Knives; Front Roller ⅝ in.; Reel Axle ⅝ in.; Bearing on Drive Wheel Hub 2¼ in. Hardwood Roller 3 in. in Diameter. Adjustable to cut grass to a height of ½ to 1 in.; Will cut grass standing about 5½ in. High.

DIAMETER OF DRIVE WHEELS 9 IN.

Nos.	KNDL12	KNDL14	KNDL16	KNDL18
Width of Cut, inches	12	14	16	18
Diameter of Rad. In.	7	7	7	7
Extreme Width, in	17	19	21	23
Wgt. each abt., lbs...	49	46	48	50
Each	$25.00	28.00	32.50	36.50

One in a Wood Box.

Extra Parts for *KEEN KUTTER* Lawn Mowers are Carried in Stock and can be included with Orders for Other Goods.

SPECIAL FEATURES OF ***KEEN KUTTER**** DOUBLE GEAR BALL BEARING LAWN MOWERS

BALL BEARING REEL—Accurate, Smooth Running, With Simple Adjustment.

FIVE REVOLVING KNIVES ON HIGH WHEEL PATTERN—Close and Continuous Cut.

LOWER ROCKING ADJUSTMENT—Convenient, Simple, Positive.

STEEL DOUBLE PIN RATCHET—Never Fails to act; will not wear out.

STEEL BUSHED REEL COG—Large Bearing, Lessening Wear on Pinion and Axle.

ALL PARTS MECHANICALLY ACCURATE—Insuring Minimum Wear and Ease of Running.

LAWN MOWERS.

Sectional Cut of Ratchet and Bearings

No. RO 14

Double Gearing. Bottom View, Showing Manner of Adjustment

ROLO® DOUBLE GEAR, BALL BEARING.

Highest Grade Cast Side Frames; Spoke Pattern Flanged Drive Wheels; Gear Castings and Bed Plate Securely Braced; Four Tempered Crucible Steel Revolving Cutter Blades, and Adjustable and Self-sharpening Bed Knife; Steel Connecting Bar; Solid Axle; Open Reel; Adjustable Reinforced Cutter Bar; Steel Cones; Double Gearing on Both Sides; Double Steel Pin Ratchets; Adjustable Varnished Hardwood Roller; Wrought Iron Handle Braces, and 3/4 ft. Varnished Hardwood Handle; Entire Mower Finished in Blue and Gold.

Front Axle, 7/8 in.; Real Axle 9/16 in., Axle has 1 3/8 in Bearing on Drive Wheel Hub; Adjustable to Cut Grass to Height 3/8 to 1 3/4 in.

DIAMETER OF DRIVE WHEELS 9 IN.

Nos.	RO/14	RO/16	RO/18
Width of Cut, Inches	12	16	18
Diameter of Reel, Inches	5 3/4	6 3/4	6 3/4
Extreme Width, Inches	18 1/2	20 3/4	22 3/4
Weight each about, lbs.	45	47	50
Each	$26.00	28.50	30.50

‡ & ¢ SIMMONS KEEN KLIPPER®; BALL BEARING

Low Wheel.

High Grade Cast Side Frames, Spoke Pattern Drive Wheels, Gear Castings and Bed Plate; Four Tempered Crucible Steel Revolving Cutter Blades and Adjustable and Self-sharpening Bed Knife; Steel Cross Bar; Solid Axle; Open Reel; Adjustable Reinforced Cutter Bar; Steel Cones; Double Gearing on Both Sides; Double Steel Pin Ratchets; Adjustable Hardwood Roller; Wrought Iron Handle Braces, and 3/4 ft. Hardwood Varnished Handle; Entire Mower Handsomely Finished in Blue and Gold.

‡ & ¢ SIMMONS KEEN KLIPPER®; DOUBLE GEAR; LOW WHEEL.

Front Axle 7/8 in.; Real Axle 9/16 in.; Axle has 1 3/8 in. Bearing on Drive Wheel Hub; Hardwood Roller 2 in. in Diameter; Adjustable to cut grass to height 1/2 to 1 7/8 in.

DIAMETER OF DRIVE WHEELS 8 1/2 IN.

Nos.	‡ & ¢ LS 14	‡ & ¢ LS 16	‡ & ¢ LS 18
Width of Cut, Inches	12	16	18
Diameter of Reel, Inches	5 1/2	6 1/2	6 1/2
Extreme Width, Inches	18 1/2	20 3/4	22 3/4
Weight each about, lbs.	47	50	52
Each	$28.50	32.00	35.50

‡ & ¢ SIMMONS KEEN KLIPPER®; DOUBLE GEAR; HIGH WHEEL.

Front Axle 7/8 in.; Real Axle 9/16 in.; Axle has 1 3/8 in. Bearings on Drive Wheel Hub; Hardwood Roller 2 1/2 in. in Diameter; Adjustable to cut grass to height 1/2 to 1 7/8 in.

DIAMETER OF DRIVE WHEELS 11 IN.

Nos.	‡ & ¢ HS 14	‡ & ¢ HS 16	‡ & ¢ HS 18	‡ & ¢ HS 20
Width of Cut, Inches	14	16	18	20
Diameter of Reel, Inches	6 1/2	6 1/2	6 1/2	6 1/2
Extreme Width, Inches	18 1/2	20 3/4	22 3/4	24 3/4
Weight each about, lbs.	55	60	65	67
Each	$39.00	42.00	45.50	49.00

One in a Wood Box.

EXTRA PARTS FOR LAWN MOWERS NOT CARRIED IN STOCK CAN ONLY BE FURNISHED BY PERSONS SHIPPED DIRECT FROM FACTORY.

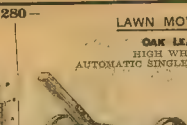
‡ Grass marked thus (‡) are not carried in stock and can only be furnished by shipment direct from factory.

LAWN MOWERS.

OAK LEAF®

HIGH WHEEL.

AUTOMATIC SINGLE ADJUSTMENT.



Extra Strong Cast Iron Side Frames and Bed Plate; Oil Tempered Crucible Steel Bed Knife and Revolving Blades; Turned-up Bed Knife is Self-sharpening and Instantly adjusted by turning Two Thumb Nuts which are located on Upper Right Hand Side of Bed Plate; Spoke Flange Raised Cast Iron Drive Wheels, 9/16 in. Steel Axle and Front Connecting Bar; Four Malleable Iron Reel Braces; Steel Cones and Cups, Direct Gearing, with Pintons and Pawls on each side; Steel Handle Braces Fasten on Inside of Side Frames; 3/4 ft. Varnished Hardwood Handle.

OAK LEAF®, BALL BEARING.

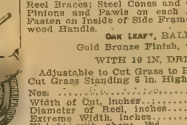
Gold Bronze Finish, with Red Stripings.

WITH 10 IN. DRIVE WHEELS

Adjustable to Cut Grass to Height of 3/8 to 1 1/2 in.; Will Cut Grass Standing 6 in. High.

Nos.	EAB14	EAB16	EAB18
Width of Cut, Inches	12	14	16
Diameter of Reel, Inches	5"	6"	6"
Extreme Width, Inches	19 3/4	21 3/4	23 3/4
Weight each about, lbs.	45	47	50
Each	$31.00	$32.00	$35.50

HIGH WHEEL.



Cast Iron Frames and Bed Plate; Oil Tempered Crucible Steel Bed Knife and Four Revolving Blades; Spoke Flange Raised; Full Spoke Cast Iron Drive Wheels; 5/8 in. Steel Rear Axle; 3/4 in. Steel Front Connecting Bar; Malleable Iron Reel Braces; Direct-Gearing, with Cast Iron Pintons and Pawls on each Side, Dust-proof Bearings, Patent Ball Retainers; Hardwood Rollers; Steel Handle Braces Fastened on Inside of Frame; 3 ft. Varnished Hardwood Handle and Cross Bar; Roller Arms Fitted for Grass Catcher.

Gold Bronze Finish, with Black Stripings.

Adjustable to cut Grass to Height of 3/8 to 1 1/4 in., and will cut Grass standing about 5 1/2 in. High.

OAK LEAF®—BALL BEARING

DRIVE WHEELS 10 IN. IN DIAMETER

Nos.	EBS/14	EBS/16	EBS/18
Width of Cut, in.	14	16	18
Diameter of Reel, in.	10	10	10
Extreme Width, in.	5	5	5
Weight each about, lbs.	37	38	41
Each	$26.00	27.00	28.00

HIGH WHEEL.

Extra Strong Cast Iron Side Frames and Bed Plate, Pivoted on Steel Cones; Crucible Steel Bed Knife and Revolving Blades; Set Screw Reel Bearing Adjustment, Worked from Upper Side; Spoke Flange Raised Cast Iron Drive Wheels, 9/16 in Steel Axle and Front Connecting Bar; Four Revolving Blades, with Malleable Iron Bracket Steel Cones and Cups; Direct Gearing, with Pintons and Pawls on each Side, Steel Handle Braces fasten on Inside of Side Frames; 3 ft. Varnished Hardwood Handle.

OAK LEAF®, BALL BEARING.

Painted Aluminum and Gold Bronze.

Adjustable to Cut Grass to Height of 1 to 1 3/4 in.; Will Cut Grass Standing about 6 in. High.

DIAMETER OF DRIVE WHEELS 9 IN

Nos.	EA14	EA16	EA18
Width of Cut, Inches	12	14	16
Diameter of Reel, Inches	5 1/2	5 1/2	5 1/2
Extreme Width, Inches	19	21	23 1/4
Weight each about, lbs.	45	47	51
Each	$24.50	24.00	27.00

Wood Box.

EXTRA PARTS FOR LAWN MOWERS NOT CARRIED IN STOCK CAN ONLY BE FURNISHED BY PERSONS SHIPPED DIRECT FROM FACTORY.

LAWN MOWERS.

OAK LEAF*.

HIGH WHEEL.

Cast Iron Frames and Bed Plate; Oil Tempered Crucible Steel Bed Knife and Revolving Blades; Set Screw Rocking Adjustment, worked from Upper and Lower Side. Full Spoke Cast Iron Drive Wheels; ⅝ in. Steel Rear Axle and Front Connecting Bar; Four Revolving Oil Tempered Steel Blades, with Malleable Reel Braces; Direct Gearing with Cast Iron Pinions and Pawls on each Side; Hardwood Rollers; Steel Handle Braces fastened on Inside of Frame; 3 ft. Varnished Hardwood Handle and Cross Bar.

Gold Bronze Finish, with Black Stripping.

Adjustable to Cut Grass to Height of ⅝ to 1¼ in., and will Cut Grass standing about 5½ in. High.

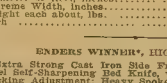
OAK LEAF*—PLAIN BEARING.

DRIVE WHEELS 9 IN. IN DIAMETER.

Nos.	EPR14	EPR16
Width of Cut, inches	14	16
Diameter of Reel, inches	5½	6¼
Extreme Width, inches	19¼	20½
Weight each about, lbs.	36	38
Each	$20.50	21.00

ENDERS WINNER*, HIGH WHEEL.

Extra Strong Cast Iron Side Frames and Bed Plate; Steel Self-Sharpening Bed Knife, with Inside Set Screw Rocking Adjustment; Heavy Spoke Flange Raised Drive Wheels; ⅝ in. Steel Axle; Improved ⅝ in. Steel Front Bar; Four Tempered Steel Revolving Blades, with Malleable Reel Braces; Direct Gearing, with Hardened Pinions and Ratchets; Steel Handle Braces; 3 ft. Varnished Hardwood Handle.



BALL BEARING.

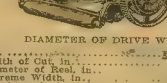
Painted Light Blue and Gold.

Adjustable to cut grass to a height of ⅝ to 1¼ in.; Will cut grass standing about 6 in. high.

DIAMETER OF DRIVE WHEELS 10 IN.

Nos.	EDB/14	EDB/16	EDB/18
Width of Cut, in.	14	16	18
Diameter of Reel, in.	5	6	6
Extreme Width, in.	19	21	23
Weight each about, lbs.	40	50	54
Each	$28.50	29.00	30.00

ENDERS WINNER*, PLAIN BEARING, LOW WHEEL.



Extra Strong Cast Iron Side Frames and Bed Plate; Steel Self-Sharpening Bed Knife, with Inside Set Screw Rocking Adjustment; Heavy Spoke Flange Raised Drive Wheels, ⅝ in. Steel Axle; Improved ⅝ in. Steel Front Bar; Four Tempered Steel Revolving Blades, with Malleable Reel Braces; Phosphor Bronze Reel Bushings; Direct Gearing, with Hardened Pinions and Ratchets; Steel Handle Braces; 3 ft. Varnished Hardwood Handle, Painted Light Blue and Gold; Phosphor Bronze Steel Bushings; Adjustable to cut grass to a height of ⅝ to 1¾ in.; Will cut grass standing about 8 in. high.

DIAMETER OF DRIVE WHEELS 8 IN.

Nos.	EL9/14	EL9/16
Width of Cut, inches	14	16
Diameter of Reel, inches	5½	5½
Extreme Width, inches	21	21
Weight each about, lbs.	39	41
Each	$18.50	19.00

One in a Wood Box.

EXTRA PARTS FOR LAWN MOWERS NOT CARRIED IN STOCK CAN ONLY BE FURNISHED BY BEING SHIPPED DIRECT FROM FACTORY.

LAWN MOWERS.

RUN EASY*.

Cast Iron Frames and Bed Plate; Oil Tempered Crucible Steel Bed Knife; Set Screw Rocking Adjustment, Heavy Cast Iron Solid Center Drive Wheels, with Short Spokes; Steel Reel Axle and Front Connecting Bar ⅝ in. in Diameter, which securely braces the Frame; High Speed, Making Clean and Close Cut; Three Oil Tempered Crucible Steel Revolving Blades, with Malleable Reel Braces; Direct Gearing, Hardwood Rollers; Steel Handle Braces with 3 ft. Varnished Hardwood Handle and Cross Bar.

RUN EASY*; LOW WHEEL; PLAIN BEARINGS.

Aluminum Finish, with Blue Stripes.

Adjustable to cut Grass to a Height of ⅝ to 1¾ in. Will cut Grass standing about 5½ in. High.

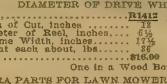
DIAMETER OF DRIVE WHEELS 8 IN.

Nos.	R1412	R1414	R1416	R1418
Width of Cut, inches	12	14	16	18
Diameter of Reel, inches	5¼	5¼	5¼	5¼
Extreme Width, inches	17½	19½	21½	23½
Weight each about, lbs.	44	46	48	48
Each	$16.00	16.50	17.00	17.50

One in a Wood Box.

EXTRA PARTS FOR LAWN MOWERS NOT CARRIED IN STOCK CAN ONLY BE FURNISHED BY BEING SHIPPED DIRECT FROM FACTORY.

PONY LAWN MOWERS.



KEEN KUTTER*, PONY.

Extra Heavy Rocking Adjustment for Lower Steel Bed Knife, Worked by Two Square Head Adjusting Screws and 8 Square Head Compensating Screws on Each Side. Extra Steel Braced, Securely Bolted, Varnished Maple Handle Attachment for Guiding, 58 in. Long, with Varnished Maple Cross Bar, Non-loosening Clamp Attachment. Varnished Hardwood Adjustable Rollers, 4 in. in Diameter.

Width of Tread 2 in.; Axle has ⅞ in. Bearing on Drive Wheel Hub; Wheel Base, or Length on Ground (from Center of Roller to Center of Drive Wheel), 24 in. Mower Adjustable to Cut Grass to Height ½ to 2¼ in.

DIAMETER OF DRIVE WHEELS 14 IN.

No. KP30—Width of Cut, 30 in.; Diameter of Reel, 7 in.; Extreme Width, 40 in.; Length over all (Shafts not included), 6 ft.; Weight each about, 270 lbs. Each $225.50

One in a Crate.

All Metal Parts Extra Finished and Painted Crimson, Silver and Gold, Swinging Draft Attachment Fastened in Solid Malleable Iron Arms, Bolted to Front Connecting Bar; Malleable Iron Single Tree, with Draft Bar Attached to ⅝ in. Steel Draft Bar, and Operates in a Segment which is held on Draft Bar, in a Double Collar Rest, Fastened with Set Screws. This Segment Lifts up and down to Follow any Unevenness of Ground, and will only drop to a certain degree thus keeping the Single Tree from the ground.

Extra Heavy Highest Grade Cast Side Frames, Spoke Flanged Drive Wheels and Dished Bed Plate, all Thoroughly Braced and Reinforced; Four Highest Grade Crucible Steel Heavy Oil Tempered Revolving Knives, and Adjustable and Self-sharpening Bed Knife, Securely Screwed to Bed Plate. Four Varnished Malleable Reel Braces. Malleable Adjustable Roller Brackets; 1¼ in. Steel Main Axle; Extra Heavy Steel Reel Shafts, 1 in. Diameter; Double or Direct Gearing on both Sides, with Independent or Removable Main Gear, all Gear Teeth Extra Hardened. Compensating Globular Reel Journal. Triple Interior Steel Ratchets on Both Sides, Inside of Drive Wheels, with Slide Screws to Throw the Mower in or out of Gear. Slide Screws Working from Outside Face of Drive Wheel. Drive Wheels are Interchangeable from Right to Left, to Equalize Wear.

Extra Parts for *KEEN KUTTER Pony Lawn Mowers are Carried in Stock and can be included with Orders for Other Goods.**

—2560—

SPARK PLUGS.

E. C. SIMMONS®.

Jacket or Shell turned from Crucible Steel, Polished and Nickel Plated; Nickel Plated Bushing Nut; Special High Resistance Alloy Electrodes Staked into the Center, Stem and Shouldered within the Porcelain against Copper Gasket, making Plug Absolutely Gas-tight and prevents Breakage; Porcelain Hand-turned from Imported Clays, Transparent Glazed Finish and Fully Guaranteed; Universal or Slip-on Polished Brass Terminal

Made Extra Large and Heavy and should be used when the Regular Size Spark Plugs are unequal to the Strain imposed by Long-stroke, Small Motors, also where there is intense spark. Special Steel Spring Sleeve Stays over Porcelain under Bushing Nut, Insuring Leak-Proof Joint; Copper Asbestos Gasket at End of Porcelain

DOUBLE FIRING POINTS, Bent to provide Oil Drip and keep Points free from Oil.

GUARANTEED against Imperfections in Material and Workmanship.

Each

No. S/10½—½ IN., For any Cars using ½ in. Spark Plugs and for Fordson Tractors.....$1.20

No. S/10⅝—⅝ IN., For any Cars using ⅝ in. Spark Plugs 1.20

No. S/10¾B—¾ IN.; For Buick Cars; Extension 1⅛ in. below Threads..... 1.20

No. S/10M—METRIC 1.50

Weight Each about 6½ ozs.

No. S/10½L

Extra Long, For Engines on which the Water Jackets are so Deep that an Extra Long Plug is needed to reach Combustion Chamber.

Each

No. S/10½L—½ IN., EXTENSION ⅞ IN. BELOW THREADS $1.30

No. S/10¾L—¾ IN.; EXTENSION ⅞ IN. BELOW THREADS 1.30

Weight Each about 6 ozs.

One in a Carton; Twelve in a Cardboard Box.

SINGLE FIRING POINT; Bent to provide Oil Drip and Keep Points free from Oil, Asbestos Lined Copper Gaskets at both upper and lower end of Porcelain

GUARANTEED against Imperfections in Material and Workmanship.

FOR FORD AND OTHER CARS.

Each

No. S/20½—½ IN. $0.80

No. S/20⅝—⅝ IN. ..... .80

No. S/20¾B—¾ IN., FOR BUICK CARS; EXTENSION 1⅛ IN. BELOW THREADS ..... .80

No. S/20M—METRIC ..... .80

Weight Each about 3½ ozs.

No. S/20½L

EXTRA LONG, For Engines on which the Water Jackets are so deep that an Extra Long Plug is needed to reach Combustion Chamber.

Each

No. S/20½L—½ IN.; EXTENSION 1⅛ IN. BELOW THREADS $0.80

No. S/20¾L—¾ IN., EXTENSION 1⅛ IN. BELOW THREADS ..... .80

Weight Each about 4 ozs.; One in a Carton; Twelve in a Cardboard Box.

PORCELAINS FOR E. C. SIMMONS® SPARK PLUGS.

ASSEMBLED; Consists of Porcelain, Center Electrode and Two Asbestos Copper Gaskets.

Each

No. SP10—FOR SPARK PLUGS Nos. S/10½, S/10¾ and S/10M $0.50

No. SP10L—FOR SPARK PLUGS Nos. S/10½L, S/10¾L and S/10M ..... .50

No. SP/20—FOR SPARK PLUGS Nos. S/20½, S/20⅝ and S/20M ..... .30

No. SP/20L—FOR SPARK PLUGS Nos. S/20½L, S/20¾L and S/20¾B ..... .30

Packed Loose; Weight Each about ⅝ oz.

HEAVY DUTY FOR TRACTORS AND TRUCKS.

Made Extra Large and Heavy to withstand the Strain of High Power Tractor Engines, . . .

DOUBLE FIRING POINTS, Bent to provide Oil Drip and keep Joints free from Oil.

GUARANTEED against Imperfections in Material and Workmanship.

Each

No. S/20½—½ IN.; For Tractors and Trucks using ½ in. Spark Plugs..... $1.80

No. S/20⅝—⅝ IN.; For Tractors and Trucks using ⅝ in Spark Plugs..... 1.80

No. S/20¾—¾ IN.; For Tractors and Trucks using ¾ in. Spark Plugs..... 1.80

No. S/30½ Weight Each about 5½ ozs. No. S/30¾

One in a Carton; Twelve in a Cardboard Box

SPARK PLUG ASSORTMENTS.

E. C. SIMMONS®.

Per Assortment

No. SPA—ASSORTMENT, Consists of 120 Spark Plugs (Inclusive of 4 Mounted on Board) and other items listed below, Weight per assortment about 50 lbs. $117.80

One Assortment in a Wood Box.

CONSISTS OF THE FOLLOWING:

60 No. S/20 Line of E. C. SIMMONS Spark Plugs (Any Size).

60 No. S/10 Line of E. C. SIMMONS Spark Plugs (Any Size).

50 No. 2493 of E. C. SIMMONS Spark Plug Counter Circulars.

1 No. 2457 Prismatic Store Sign, 4⅞x8 in., with Easel Back and Tape Hanger; Blue Background, Gold and Silver Lettering .....

1 Mahogany Finish Wood Display Cabinet 13¾ in. Long, 12⅝ in. High, Depth at Top 6⅜ in.; Depth at Bottom 9¼ in.; Display Board Covered with Green Velvet, the words "E. C. SIMMONS Spark Plugs" being printed in Gold; Four Complete Plugs and One Sectional Plug mounted on Board, Compartments in Rear of Cabinet will hold 120 Spark Plugs. .....

The following Assortment will take care of a large majority of cars now in use:

24 No. S/10⅝

24 No. S/10¾L

12 No. S/10½

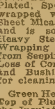
48 No. S/20½

12 No. S/20¾

SPARK PLUGS.

SPLITDORF COMMON SENSE.

Shell or Base is Turned from a Solid Bar of Steel, Heavily Nickel Plated, Special Metal Electrode, wrapped with Stripped Ruby India Sheet Mica to a Thickness of ⅛ in. and is solidly compressed into a Heavy Steel Bushing; This Lateral Wrapping of Mica more prevents Gas from Seeping through and Eliminates Loss of Compression. The Entire Core and Bushing are easily removable for cleaning.



Green Hexagonal Porcelain Jacket at Top of Plug, has nothing to do with the Insulation of the Plug, it is only a Jacket or Finish to the Plug and is to Guard the Mica Insulation from being Chafed and Broken off the Electrode; Breakage or absolute removal of the Green Porcelain Jacket in no way prevents the use of the Plug

No. P163.

Asbestos Lined Copper Gasket between Shell and Bushing makes a Perfectly Gas-tight Connection, Clip Terminal or Plain Wire can be used.

	Each
No. P144—⅛ IN. REGULAR OPEN END; For all Models Overland Cars, prior to Model 79; Also Models 83 and 75 and any other Car using a regular Standard ⅛ in. Thread	$1.50
No. P143—⅜ IN.; With Asbestos Lined Copper Gasket	1.50
No. P148—METRIC	1.50
No. P174—⅜ IN. S. A. E. LONG; For all Models Oakland, Allen, Premier, Winton and Lozier Cars	1.50
No. P124—SPECIAL ⅜ IN. TAPER FOR BUICK CARS	1.50
No. P179—½ IN. SPECIAL FOR FORD CARS AND FORDSON TRACTORS and can be used on any Car using a Standard ½ in. Thread	1.50

One in a Cardboard Box; Twelve in a Carton; Weight Each about ¼ lb.

CHAMPION, HEAVY STONE.

Designed for High Powered Cars, such as Cadillac, Chalmers, Chandler, Packard, etc., where an Extra Heavy and Sturdy Spark Plug is desired.

Extra Heavy Material throughout; Steel Jacket, Gun Metal Finish; Extra Heavy Petticoat Type Porcelain, Accurately Turned and Baked, is Impervious to Extreme Heat, Oil or High Electric Current; Absolutely Compression Tight; Highest Quality Imported Manganese Nickel Sparking Points, which cannot Oxidize, Carbonize or Burn.

TWO-PIECE HEAVY STONE.

HAS THE ADDED CONVENIENCE OF BEING EASILY TAKEN APART FOR CLEANING OR REPLACING PORCELAIN.

	Each
No. 23B—⅛ IN.	$1.30
No. 43B—⅜ IN.; With Asbestos Lined Copper Gasket	1.30

One in a Carton; Weight Each about 7 ozs.

Porcelains for Champion Heavy Stone Spark Plugs.

ASSEMBLED; Consists of Porcelain, Center Electrode, Two Asbestos Copper Sockets and Cap Screws.

	Each
No. 103H—FOR SPARK PLUGS Nos. 13B and 43B	$0.60

Packed Loose; Weight Each about 1 oz.

CHAMPION, HEAVY DUTY.

Extra Heavily Constructed, but Small in Size; Is made for use where Compactness is necessary.

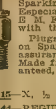
Steel Jacket, Gun Metal Finish; Extra Heavy Petticoat Type Porcelain, Thoroughly Guaranteed against Heat Breakage; One-piece Construction makes Leakage Impossible; Highest Quality Imported Manganese Nickel Sparking Points, which cannot Oxidize, Carbonize or Burn.

	Each
No. 32—⅛ IN.	$1.16
No. 34—⅜ IN.; With Asbestos Lined Copper Gasket	1.16

One in a Carton; Weight Each about 6 ozs.

SPARK PLUGS.

CHAMPION.



Steel Jacket, Black Wrought Finish, with Heavy Petticoat Type Porcelain; Special Metal Sparking Points; Will not Burn Out Readily. Especially Designed for Ford, Reo, Maxwell, E M F., Buick, Flanders, Regal and other Cars with the Splash System Motors.

Plugs are so designed that oil will not gather on Sparking Points or Electrode, which is an assurance of a Good Hot Spark at all times. Made from best material and Thoroughly Guaranteed, covering Heat Breakage of Porcelains.

	Each
No. A15—X, ½ In.	$1.00
No. A44—REGULAR; ⅝ IN.; With Asbestos Lined Copper Gasket	1.24

One in a Cardboard Box; Weight Each about ¼ lb

Porcelains for Spark Plugs.

ASSEMBLED; Consists of Porcelain, Center Electrode, Asbestos Copper Gasket and Cap Screw.

	Each
No. A10S—FOR SPARK PLUGS No. A15	$0.54
No. A104—FOR SPARK PLUGS No. A44	.60

One in a Carton; Weight Each about 1 oz.

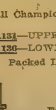
Gaskets for Spark Plugs.

Copper, Asbestos Lined.

For all Champion Spark Plugs except Nos. A13 and A24.

	Per 100
No. A13U—UPPER	$4.00
No. A13B—LOWER	4.00

Packed Loose; Weight per 100 about ¼ lb.



CHAMPION CONICAL.

FOR BUICK AND CHEVROLET CARS.

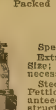
Steel Jacket, Nickel Plated, with Black Heat-treated Case Hardened Bushing; Heavy Petticoat Type Porcelain, Accurately Turned and Backed, making it Impervious to Extreme Heat, Oil or High Electric Current; Gasket Construction renders Absolute Compression; Highest Quality Imported Manganese Nickel Sparking Points, which cannot Oxidize, Carbonize or Burn; Combination Clip and Magneto Terminal.

The Long Shell permits the Spark to ignite within the Cylinder instead of in the Pocket as occurs when ordinary Type Plugs are used.

	Each
No. A82—⅝ IN.; With Asbestos Lined Copper Gasket	$1.16

Packed Loose; Weight Each about 4 ozs.

CHAMPION "O", HEAVY DUTY.



Specially Built for use in Overland Cars.

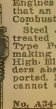
Extra Heavy Construction, but Small in Size; is made for use where Compactness is necessary.

Steel Jacket, Gun Metal Finish; Extra Heavy Petticoat Type Porcelain, Thoroughly Guaranteed against Heat Breakage; One Piece Construction makes Leakage Impossible; Highest Quality Imported Manganese Nickel Sparking Points, which cannot Oxidize, Carbonize or Burn.

	Each
No. A140—½ IN.	$1.16

One in a Carton; Weight Each about 6 ozs.

CHAMPION, EXTRA LONG.



Especially Designed for Mets Cars, also on Gas Engines on which the Water Jackets are so deep that an Extra Long Plug is needed to reach the Combustion Chamber.

Steel Jacket, Nickel Plated, with Black, Heat-treated Case-hardened Bushing; Heavy Petticoat Type Porcelain, accurately Turned and Baked, making it Impervious to Extreme Heat, Oil or High Electric Current; Gasket Construction renders absolute compression; Highest Quality, Imported, Manganese Nickel Sparking Points, which cannot Oxidize; Carbonize or Burn.

	Each
No. A34—½ IN.; EXTENSION 1¼ IN. BELOW THREADS	$1.16

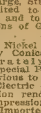
One in a Carton; Weight Each about 6 ozs.

2562

SPARK PLUGS.

CHAMPION REGULAR.

An Extra Large, Strong and Durable Plug, suited to nearly every type of Motor and to the most extreme conditions of Oil, Heat, Carbon, etc.



Steel Jacket, Nickel Plated Finish; Finest Quality Conical Type Porcelain, Accurately Turned and Backed by a Special Process until it is truly Impervious to extreme Heat, Oil or High Electric Current. Gasket Construction renders the Plug absolutely Compression tight; Highest Quality Imported Manganese Nickel Sparking Points, which cannot Oxidize, Carbonize or Burn and Insure a Hot, Fat Spark.

No. A13.	Each
No. A13—¼ IN.	$1.16
No. A43—⅜ IN.	1.16
No. A24—½ IN. LONG; With ½ in. Extension below Threads	1.66

One in a Carton; Weight Each about 6 oz.

Porcelains for Champion Regular Spark Plugs.

ASSEMBLED: Consists of Porcelain, Center Electrode, Two Asbestos Copper Gaskets and Cap Screws.

No. A193—FOR SPARK PLUGS No. A13.	Each $0.40

Packed Loose; Weight Each about 1 oz.

CHAMPION REGULAR.

MADE ESPECIALLY FOR FORDSON TRACTORS

An Extra Large, Strong and Durable Plug, suited to nearly every type of Motor and to the most extreme conditions of Oil, Heat, Carbon, etc.

Steel Jacket, Black Finish; Finest Quality Petticoat Type Porcelain, Accurately Turned and Backed by a Special Process until it is truly Impervious to Extreme Heat, Oil or High Electric Current; Gasket Construction renders the Plug absolutely compression tight; Highest Quality Imported Manganese Nickel Sparking Points, which cannot Oxidize, Carbonize or Burn and Insure a Hot, Fat Spark.

No. A14—½ IN.	Each $1.16

One in a Carton; Weight Each about 6 oz.

CHAMPION TRUCK.

For Atterbury, Avery, Bessemer, Bour-Magnetic Chase, Clydesdale, Dort, Defiance, Diamond T, Dort, Federal, Four Wheel Drive, Garford, Gar Wood, G.M.C., Grant, Hewitt-Bernstein, Henderson, Horner, H. C. Kelly-Springfield, Master, Nash, Republic Rider Sehgel, Seagrave, Selden, Standard W. S., Vim, White and Winther Cars.

Extra Heavy Material throughout; Steel Jacket, Gun Metal Finish; Extra Heavy Special Airplane Type Porcelain, Accurately Turned and Baked, is Impervious to Extreme Heat, Oil or High Electric Current; absolutely Compression Tight; Highest Quality Imported Manganese Nickel Sparking Points, which cannot Oxidize, Carbonize or Burn.

The One-Piece construction makes leakage impossible.

No. JA58—⅞ IN. with Asbestos Lined Copper Gasket	Each $1.16

One in a Carton; Weight Each about 7 oz.

CHAMPION.
ALL-IN-ONE—PRIMING.

Steel Jacket, Blued Finish, with Heavy Petticoat Type Porcelain; Special Metal Sparking Points; Will not burn out readily; Constructed with Nickel Plated Brass Priming Cup with Spring Tension Pet Cock; By turning Pet Cock, Gasoline may be injected in the Plug, which flows down to the Base, and as the Engine is turned to the Firing Point it readily causes an Explosion and the starting of the Engine; Gasoline will not vaporize in Cold Cylinders and the best spark will not ignite gasoline when it is not vaporized and forced up to the firing point A few drops at the Base of the Plug will instantly start Engine and does away with excessive cranking and Engine Trouble.

No. H14—½ IN.	Each $1.16
No. H44—⅞ IN.; WITH ASBESTOS LINED COPPER GASKET	1.66

One in a Cardboard Box. Weight Each about ½ lb.

SPARK PLUGS.

A. C.

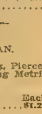
Steel Jacket, Blued; Special Alloy Electrode Extra Heavy Porcelain forced through Jacket against a Copper Gasket, Upper Part of Jacket spun over Gasket making a Gas-tight Joint; Clip Terminal or Plain Wire can be used.

A. C.—TITAN—CONICAL TYPE.

For Abbott-Detroit, Anderson, Buick (35-4 cyl.) Cadillac, Cole, Davis, Empire, Glide, Grasmn, Jeffery, Jordan, Kissel Kar, Oakland (Models 38 and 50), Olds (8-cyl.), Packard Twin Six, Peerless, Pierce Arrow, Stutz, Velie and Westcott.

No. ACT⅜—⅜ IN.; With Asbestos Lined Copper Gasket	Each $1.30

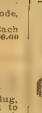
REGULAR METRIC AC TITAN.



For B. & S. Motor Wheel and Essex, Pierce-Arrow 1916 Model, and all Cars using Metric Plugs.

No. ACTM—METRIC	Each $1.26

LONG A. C. TITAN.



For Buick, Chalmers 32, Chevrolet 490, Enger 12-cyl., Mc Laughlin (Canada) and Scripps-Booth 4.

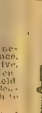
No. ACTL⅜—⅜ IN.; EXTENSION ½ IN. BELOW THREAD; With Asbestos Lined Copper Gasket	Each $1.30

LONG BODY AC TITAN

For Chandler, Crane-Simplex and White Cars; also for Hessenger, Hahn, Moreland, Noble and Robinson Fire Trucks.

No. ACTLB⅜—⅜ IN.	Each $1.30

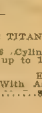
SAE (or A. L. A. M.) A. C.-TITAN.



For Apperson (8-cyl.), Daniels, Haynes, Marmon, Murray and Stearns-Knight.

No. ACTS⅜—⅜ IN.; 18 THREAD; with Asbestos Lined Copper Gasket	Each $1.30

SAE (OR A. L. A. M.) LONG AC TITAN



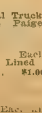
For Oakland 34B, Oldsmobile 8 Cylinder, Premier, Seneca and all Nash Cars up to 1919.

No. ACTSL⅜—⅜ IN., 18 Thread; With Asbestos Lined Copper Gasket	Each $1.30

REGULAR A. C.—CICO.

For Overland, Studebaker and other Cars using ½ in. Standard Plugs.

No. ACC½—½ IN.	Each $1.00



For Bour-Davis, Detroiter, Federal Truck, Hudson, Hupp, Lambert, Liberty, Paige, Paterson and Pilot.

No. ACC⅜—⅜ IN. with Asbestos Lined Copper Gasket	Each $1.00

In a Cardboard Box. Weight Each about ½ oz.

SPARK PLUGS.

A. C.

Steel Jacket, Blued; Special Alloy Electrode Extra Heavy Porcelain forced through Jacket against a Copper Gasket; Upper Part of Jacket spun over Gasket making a Gas-tight Joint; Clip Terminal or Plain Wire can be used.

For Dodge Cars.

	Each
No. DACC⅝—⅝ IN.; with Asbestos Lined Copper Gasket	$1.00

DODGE SPECIAL AC TITAN.

Slightly Longer than ⅝ in. Regular.

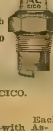
	Each
No. DACT⅝—⅝ IN.; With Asbestos Lined Copper Gasket	$1.30

LONG A. C.—CICO.

½ in. Extension Below Threads.

For Overland (up to 1914) and Reo Cars and Trucks (1916).

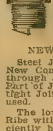
	Each
No. ACCL½—½ IN.	$1.00



LONG A. C.—CICO.

For Chevrolet "490".

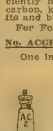
	Each
No. ACCL⅝—⅝ IN.; with Asbestos Lined Copper Gasket	$1.00



SAE (or A. L. A. M.) A. C.—CICO.

For Saxon.

	Each
No. ACCS⅝—⅞ IN.; 7/8 THREAD; with Asbestos Lined Copper Gasket	$1.00



NEW CARBON-PROOF A. C.—TITAN.

Steel Jacket, Blued; Special Alloy Electrode; New Composition Heat-proof Porcelain, forced through Jacket against a Copper Gasket; Upper Part of Jacket Spun over Gasket making a Gas-tight Joint; Clip Terminal or Plain Wire can be used.

The lower end of Porcelain has a number of Ribs with Saw-tooth edges which attain a sufficiently high degree of heat to burn away the carbon, keep the edges free from Carbon deposits and break up any possible short circuit.

For Ford, Overland or Studebaker.

	Each
No. ACCP½—½ IN.	$1.30

One in a Cardboard Box; Weight each about 3 ozs.

NEW CARBON-PROOF A. C.—FORDSON.

Steel Jacket, Blued; Special Alloy Electrode; New Composition Heat-proof Porcelain, forced to a Gas-tight Connection by a Copper Gasket, Clip Terminal or Plain Wire can be used.

The Lower end of Porcelain has a number of Ribs with Saw-tooth edges which attain a Sufficiently high degree of heat to burn away the Carbon; keep the edges free from Carbon deposits and break up any possible Short Circuit.

For Fordson Tractors.

	Each
No. ACFT½—½ IN.	$1.30

One in a Carton; Weight Each about 4 ozs.

No. ACP—Porcelain for Spark Plug No. ACFT½; Assembled; Consists of Porcelain and Upper Gasket. Each $0.74

One in a Carton. Weight Each about ½ oz.

SPARK PLUG PORCELAINS.

FOR SPARK PLUGS THAT FIT FORD CARS.

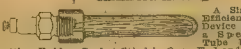
ASSEMBLED; Consists of High Grade Porcelain, Center Electrode; Two Asbestos Copper Gaskets and Cap Screws; Can be used for Spark Plugs that fit Ford Cars.

	Each
No. 100—Weight each about 1 oz.	$0.20

Packed Loose.

SPARK PLUG CLEANERS.

CHAMPION MINUTE.



A Simple, Clean, Efficient Cleaning Device consisting of a Special Glass Tube 1 in. Long with a Rubber Gasket fitted in Open End and 50 Specially Adapted Steel Needles.

	Each
No. 75—FOR ½ AND ⅝ IN. SPARK PLUGS.	$1.10

One in a Wood Box; Weight Each about ½ lb.

To Clean a Spark Plug, Fill the Tube about half full of Gasoline, Push Threaded End of Plug into Open End of Cleaner and Shake Vigorously for a minute or so; The Specially Adapted Needles quickly pick the Carbon from the Porcelain, the Gasoline dissolves the Oil Deposit, leaving in a few minutes a clean set of Spark Plugs; This Device enables anyone as well as the Expert Mechanic to thoroughly clean a Spark Plug without taking it apart or using Tools of any kind.

SPARK PLUG WRENCHES.

RUST PROOF FINISH.

A steel Double End Plug Wrench with Removable Lever. The 7/32 in. or small end fits all Standard Plugs. The 1/2 in. or larger end fits all A. L. A. M. Plugs.

	Each
No. C	$0.54

Weight Each about 5 oz.

Packed Loose.

WALDEN-WORCESTER.

Pressed Steel, Case Hardened; Double End; Hexagon Socket, with Removable Lever

	Each
No. 2933—Ends 7/32 in. and 1 1/2 in. Diameter; Weight each about ½ lb.	$0.65
No. 3137—Ends 9/32 in. and 1 9/32 in. Diameter; Weight each about ⅝ lb.	.48

Packed Loose.

SPARK PLUG WRENCHES.

Drop Forged from One Piece of Steel; Natural Finish; Designed for Convenient Service about Automobiles, Motor Boats, Gas Engines, etc. and equally adaptable for use upon Flush or Recessed Plugs; Box End has 1 in. Opening Carefully Broached out, the Open End has ⅝ in. Opening and is Milled Out.

	Each
No. 902—Length over all 8 in.; Weight Each about ½ lb.	$0.62

Packed Loose.

CYLINDER HEAD AND SPARK PLUG WRENCHES.

Drop Forged from One Piece of Tool Steel; Socket and Cylinder Head Wrench End has ⅝ in. Opening; Spark Plug Wrench End has ⅝ in. Opening; Natural Finish.

FITS PARTS ON FORD AND MODEL 4 OVERLAND CARS.

	Each
No. 2335—Length over all 11¼ in.; Weight per dozen about 11 lbs.	$0.84

Packed Loose.

For Nearly a Century the Store of Service.

SLOCOMB'S MICROMETER CALIPERS

DAVENPORT DIRECT READING MICROMETERS

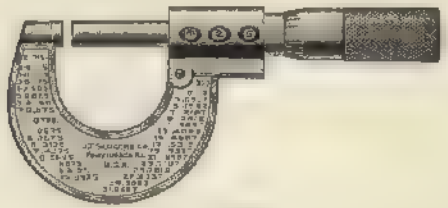


Fig. 40557A

The Davenport Slocomb Direct Reading Micrometer reads direct with perfect accuracy to thousandths of an inch, light in weight, and nicely finished.

Time saved, calculating saved, measurements made more easily for there is less chance of error. A simple compact combination of a thoroughly tested counting device.

The frame is a steel drop forging finished by cold hydraulic pressing in finished steel dies. A pressure of 300 tons is used which compresses the steel and adds greatly to its stiffness.

A full table of decimal equivalents pressed upon the frame, a table of 64ths on one side and 8ths, 16ths, and 32nds on the other side.

The screw is 50 pitch and twenty divisions on the thimble and also on the counting dials.

The counting device is compactly designed and centrally placed to balance micrometer.

It is held with perfect ease in one hand and operated in the usual way.

Price, with Genuine Morocco Case.....each **15.00**

QUANTITY PRODUCTION MICROMETERS

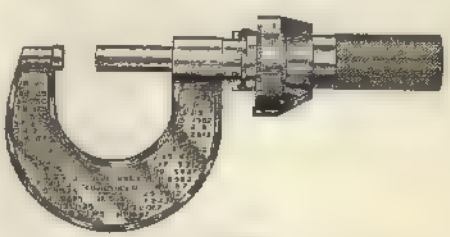


Fig. 40557B

Where a large number of pieces are to be made of one size, and for inspection this micrometer saves time, eye-strain, and insures accuracy.

The graduated sector is clamped to the micrometer thimble, and the indicator clamped to the sleeve or stationary part. The device is adjusted to zero at size and reads .002 each side, or plus and minus.

Because of the larger diameter the width of graduations is increased three times, making thousandths read $\frac{3}{16}$ wide and allows for reading ten thousandths direct. These parts are made of aluminum.

Price, Graduated to Half Thousandths. . . . . each **8.00**
" " in Ten " . . . . . " **9.00**

SLOCOMB'S MICROMETER CALIPERS

No. 22

Fig. 5795A

Measures all sizes from 0 to ½ inch by 1000ths. Where measuring is done on lathe or grinder in sizes within its range, it is preferred by many over the larger and heavier instruments. Has black enameled frame.

Price, with Friction Stop.....each **6.00**
" without Friction Stop . " **5.50**

No. 24

Measures all sizes from 0 to .350-inch by 1000ths. Intended for the measurement of paper or other soft material. Has large anvil and wide cap on screw. Black enameled frame.

Price.....each **7.00**
" with Morocco Case Extra " **.75**

No. 25

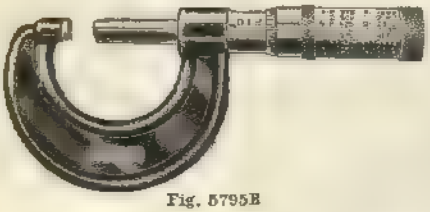


Fig. 5795B

Measures all sizes from 0 to 1-inch by 1000ths. Finished in black enamel.

Price.....each **6.25**
" with Morocco Case, Extra " **1.00**

No. 27

Measures all sizes from 1 to 2 inches by 1000ths. Similar to No. 25, finished in black enamel.

Price.....each **7.00**
" with Morocco Case, Extra " **1.25**

No. 28

Measures all sizes from 2 to 3 inches by 1000ths. Similar to No. 25, finished in black enamel.

Price.....each **7.75**
" with Morocco Case, Extra " **1.25**

No. 26

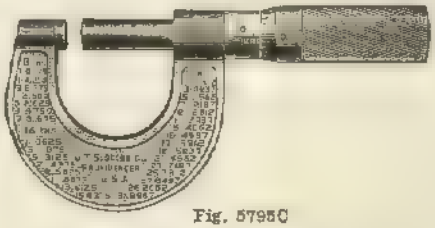


Fig. 5795C

Measures all sizes from 0 to 1-inch by 1000ths. Drop forged with polished frame. Has raised edges and figures. Figures are always bright and show plainly

Price.....each **7.50**
" with Morocco Case, Extra " **1.00**

No. 29

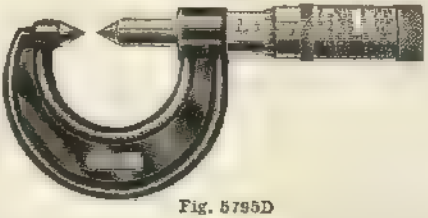


Fig. 5795D

Designed for screw thread work. It will not measure the actual diameter, but for comparison it has a wide range of uses. Also for measuring the flutes of a drill or tap or for obtaining the diameter in any recess.

Price, No. 29A, 0 to 1-inch.... each **7.00**
" " 29C, 1 " 2 " .. " **8.00**
" " 29E, 2 " 3 " .. " **9.00**

No. 31

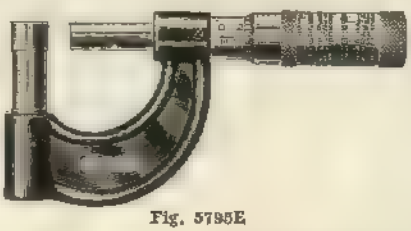


Fig. 5795E

For measuring walls of tubes, capacity 0 to 1-inch. Black enameled finish.

Price.....each **7.50**
" with Morocco Case, Extra " **1.00**

Any of the micrometers shown may be furnished with friction stop for 50 cents additional.

Write us Your Requirements for Goods Not Listed.

SLOCOMB'S MICROMETER CALIPERS

Fig. 19167A

Fig. 19167B

The frames on sizes 1 to 9 inches are

Fig. 19167C

Fig. 19167D

drop forged from bar steel

Fig. 19167E

Sizes 10-inch and larger are of high

Fig. 19167F

grade steel castings with holes through

Fig. 19167G

them for lightness in handling

Fig. 19167H

A micrometer of long life.

Fig 19167J

Heads and measuring screws are all the same. Each has a range of 1-inch, or 25 millimeters

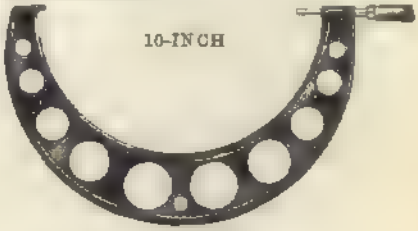


Fig. 19167K

English Graduation Inches	Metric Graduation Millimeters	Price Each
0 to 1	0 to 25	6 25
1 " 2	25 " 50	7.00
2 " 3	50 " 75	7 75
3 " 4	75 " 100	8.50
4 " 5	100 " 125	9 25
5 " 6	125 " 150	10 00
6 " 7	150 " 175	11 00
7 " 8	175 " 200	12 00
8 " 9	200 " 225	13 00
9 " 10	225 " 250	14 00
10 " 11	250 " 275	15 00
11 " 12	275 " 300	16 00
12 " 13	300 " 325	17.00
13 " 14	325 " 350	18.00
14 " 15	350 " 375	19 00
15 " 16	375 " 400	21 00
16 " 17	400 " 425	23 00
17 " 18	425 " 450	25 00
18 " 19	450 " 475	27 00
19 " 20	475 " 500	30 00
20 " 21	500 " 525	33 00
21 " 22	525 " 550	36 00
22 " 23	550 " 575	39 00
23 " 24	575 " 600	42.00

Price, with Friction Stop, All Sizes to 12 Inches, Inclusive, add each .50

Any micrometer up to 6 inches can be graduated to read 10,000ths, for an extra charge of 1.50.

For Nearly a Century the Store of Service.

SLOCOMBS' MICROMETER SETS

No. 18

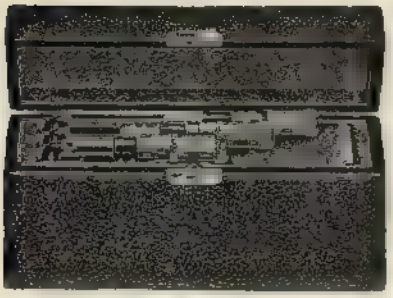


Fig. 5794A

Has a range from 0 to 3 inches. The micrometers are of the regular style, as listed singly on another page. Each micrometer is graduated to read in 1000ths, although they can, when so ordered, be graduated to read in 10000ths, at an extra cost of 1.50 each, or 4.50 per set. Size of case, 8¾ by 3 by 4½ inches.

Price	per set	23.00
" with Friction Stop	"	24.50
" Case only	each	2.25

No. 19

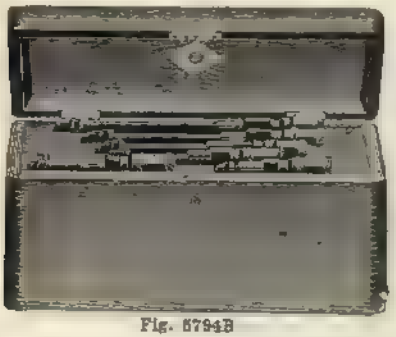


Fig. 5794B

Has a range from 0 to 6 inches. Consists of one each of 6 of the regular micrometers, and makes an excellent set for inspection or general shop use. Each micrometer is graduated to read in 1000ths, and will be furnished to read in 10000ths at an extra cost of 1.50 each, or 9.00 per set.

Price	per set	55.00
" with Friction Stop	"	58.00
" Case only	each	7.50

No. 21

Fig. 5794C

Has a range from 0 to 3 inches. All of the micrometers are of the regular style. Each instrument is graduated to read in 1000ths, although they can be furnished, when desired, graduated to read in 10000ths, at an extra cost of 1.50 each, or 4.50 per set. Size of case, 9½ by 6¾ by 1½ inches.

Price	per set	23 00
" with Friction Stop	"	24.50
" Case only	each	2.25

No. 20

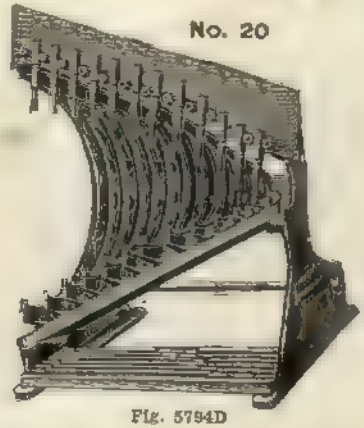


Fig. 5794D

Consists of 12 micrometers with a range from 0 to 12 inches. The partitions are rubber buttons which keep the tools separated and yet are not injurious to the instruments. Same graduation as other set.

Price	per set	164.00
" with Friction Stop	"	170 00
" Rack only	each	7.50

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STANLEY TOOLS

BULL NOSE RABBETT PLANES

No. 75

Fig. 32880A

For use in working close up into corners or other difficult places. The mouth can be adjusted for different widths by means of a set screw on top of plane.

Japanned trimmings

Length	inches	4
Size Cutter	"	1
Weight	pounds	⅝
Price	each	.90

EDGE TRIMMING PLANES

No. 95

Fig. 32880B

Designed especially for trimming or smoothing the ends of boards, such as siding, etc., for a square or close fit. The plane has a right angle rest or guide from the cutting edge, and the cutter works on a skew giving an easy shaving cut

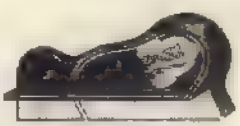

Fig. 32880C

In the rest or guide are two screw holes to which wood blocks of various bevels may be attached enabling the user to make a slanting cut.

Japanned finish.

Length	inches	6
Size Cutter	"	⅛
Weight	pounds	1¾
Price	each	2.50

It is the policy of the Stanley Rule and Level Company to furnish the best quality of goods at the lowest price possible, quality considered.

BENCH PLANE IRONS

SINGLE

Fig. 32880D

In ordering, it is necessary to give the number of the plane, size of iron and state whether single or double iron is required.

DOUBLE

Fig. 32880E

Size Inches	Price, Each Single	Double	Size Inches	Price, Each Single	Double
1¼	.45	.80	2⅛	.65	1.00
1⅜	.50	.85	2¼	.70	1.10
1½	.55	.90	2⅜	.75	1.20
2	.60	.95	2½	.80	1.30

CHALK LINE REELS

No. 12 No. 14

Fig. 32880F Fig. 32880G

Made of hardwood and polished

No. 14 provided with a Stanley No. 1 Scratch Awl.

Number		11	12	14
Length	inches	4	2¾	2¾
Diameter	"	2¼	2	2¾
Weight, per doz.	lbs.	2	2¼	2½
Price	per doz.	1.60	1.20	1.80

RAZOR EDGE SPOKE SHAVES

Fig. 32880H

So called from the shape of the cutter, which is hollow ground, giving an exceptionally keen cutting edge.

Number		84	85
Length	inches	11	12
Size Cutter	"	2	2½
Weight, per Doz	pounds	2¼	4
Price	per doz.	15.60	16.80

PARTS FOR STANLEY PLANES

BAILEY AND STANLEY BLOCK PLANES

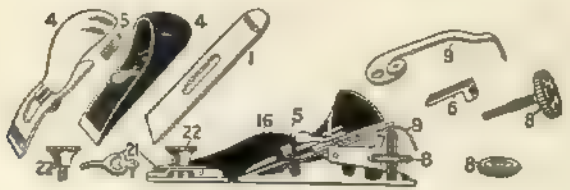

Fig 39800A

No	Name of Part	Price, Each — No. of Plane: 9, 92	15 17	16 17	18 19	60 60½	62	61, 63	6	6½
4	Lever Cap	.20	.20	.30	.40	.30	.30	.30	.40	.20
5	" " Screw	.10	.10	.10	.10	.10	.10	.10	.10	.10
6	Frog Complete					.20	.20	.20	.20	.20
7	Adjusting Lever	.10	.10	.10	.10	....	....	....	....	....
8	" Nut	.20	.20	.20	.20	.20	.20	.20	.20	.20
9	Lateral Adjusting Lever	.20	.20	.20	.20					
11	Plane Handle	.50	.50	....	....	....	.60	....	....	....
16	" Bottom	1.40	1.50	1.50	1 50	1 20	3.50	1 00	1.50	1.50
21	Eccentric Plate	.20	.20	.20	.20	.20	.20	.20	.20	.20
22	Finger Rest Knob	20	.20	.20	.20	.20	.30	20	.20	20

RABBET AND ROUTER PLANES

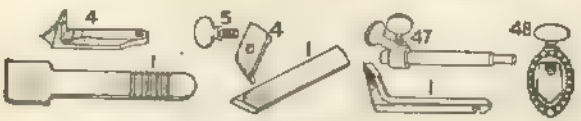

Fig. 39800B

No	Name of Part	Price, Each — No. of Plane: 90, 92	93	94	140	98, 99	71, 72½	75	95	97
1	Single Plane Iron	.60	.60	.60	.50	.40	.60	.40	.40	.90
4	Lever Cap	.30	.30	.30	.20	.20		.20	.20	.30
12	Plane Knob	....	....	....	....	.30	.30			30
14	Knob Bolt and Nut	....	....	....	....	....	.20			20
16	Plane Bottom	3 50	4.20	5.00	2.40	1.20	2 00	60	1.60	2 00
27	Cutter Bolt Adjusting Screw	.40	.40	.40						
47	Extra Attachment	....	....	....	....	....	.50			
48	Collar						.50			

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PARTS FOR STANLEY PLANES

Bailey Iron Planes

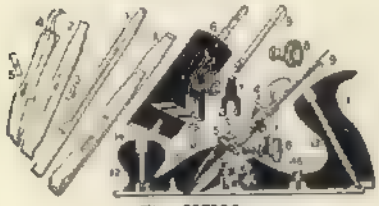

Fig. 39798A

Bailey Wood Planes

Fig. 39798B

BAILEY IRON PLANES

No.	Name of Part	Price Each — No. of Plane 1, 2	3, 3c	4, 4c	4½, 4½c	5, 5c	5½, 5½c	6, 6c	7, 7c	8, 8c
3	Cap Screw	.10	.10	.10	.10	.10	.10	.10	.10	.10
4	Lever Cap	.50	.50	.50	.50	.50	.50	.50	.50	.50
5	" " Screw	.10	.10	.10	.10	.10	.10	.10	.10	.10
6	Frog Complete	.70	.70	70	.70	70	.70	.70	70	.70
7	Y Adjusting Lever	10	.10	.10	.10	.10	.10	.10	.10	.10
8	Adjusting Nut	20	.20	20	.20	.20	.20	.20	.20	.20
9	Lateral Adjusting Lever	20	20	.20	.20	.20	20	.20	.20	20
10	Frog Screw	.10	.10	.10	.10	.10	.10	.10	.10	.10
11	Plane Handle	.40	.40	.40	.40	.40	.40	.40	.40	.40
12	" Knob	.30	.30	.30	.30	.30	.30	.30	.30	.30
13	Handle Bolt and Nut	.20	20	20	.20	.20	.20	.20	20	.20
14	Knob " " "	.20	.20	.20	.20	.20	.20	.20	.20	.20
15	Plane Handle Screw	...	....	....	.10	.10	.10	.10	.10	.10
16	" Bottom	1 70	2.00	2.00	2 40	2.40	2 40	3.30	4 70	5.70
46	Frog Adjusting Screw	.10	10	.10	.10	.10	.10	.10	.10	.10

Add 10 per cent for corrugated bottoms.

BAILEY WOOD PLANES

No.	Name of Part	Price Each — No. of Plane 22	24, 25, 35	26	27½	28	31	32	36	37
3	Cap Screw	.10	.10	.10	.10	.10	.10	.10	.10	.10
4	Lever Cap	.40	.40	.40	.40	.40	.40	.40	.40	.40
5	" " Screw	.10	.10	.10	.10	.10	.10	.10	.10	.10
6	Frog Complete	.60	.60	.60	.60	.60	.60	.60	60	.60
7	Y Adjusting Lever	.10	.10	.10	.10	.10	.10	.10	10	.10
8	Adjusting Nut	.20	.20	.20	.20	.20	.20	.20	.20	.20
9	Lateral Adjusting Lever	.20	.20	.20	.20	.20	.20	.20	.20	.20
10	Frog Screw and Bushing	.20	.20	.20	.20	20	.20	20	.20	.20
11	Plane Handle	...	.20	.20	.20	.20	.20	.20	20	.20
12	" Knob	.20	.20	.20	.20	20	.20	20	20	.20
13	Handle Bolt and Nut	...	.20	.20	.20	20	.20	20	20	.20
14	Knob Screw	.10	.10	.10	.10	.10	.10	.10	10	.10
16	Plane Bottom	.80	.80	1.00	1.00	1.40	1.60	1.70	1.00	1.40
17	Top Casting	.40	.40	.40	40	.40	40	.40	.40	.40

STANLEY SPOKE SHAVES

DOUBLE IRON, IMPROVED SPOKE SHAVES

Fig. 15102A

Cutter and cap iron fastened by a thumb screw in such a manner as to bring in even pressure on cutter and cap iron at the same time allowing adjustment without use of screw driver.

No.	Style of Handle	Length Inches	Size Cutter Inches	Price per Dozen
51	Raised	10	2⅛	5.40
52	Straight	10	2⅛	5.40

ADJUSTABLE MOUTH SPOKE SHAVES

Fig. 15102B

By means of a thumb screw the mouth can be opened or closed as course or fine work may be required.

53	Raised	10	2⅛	6.95
54	Straight	10	2⅛	6.95

TWO CUTTER SPOKE SHAVES

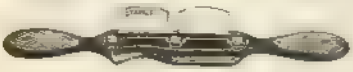

Fig. 15102C

Has two cutters and separate cutter seats one hollow and one straight. The two forms of cutters in one tool make it a very handy spoke shave.

60	Straight	10	1½	6.95

ADJUSTABLE CUTTER SPOKE SHAVES

Fig. 15102D

The cutter can be quickly adjusted both endwise and sidewise by means of the adjusting screws which engage the slots near the end.

151	Raised	10	2⅛	6.90
152	Straight	10	2⅛	6.90

DOUBLE IRON SPOKE SHAVES

No. 63

Fig. 15102E

Designed especially for light work. They have straight handles; cutters and

No. 64

Fig. 15102F

japanned cap irons are fastened by a thumb screw.

No.	Style of Handle	Length Inches	Size Cutter Inches	Price per Dozen
63	Straight	9	1¾	3.15
64	"	9	1¾	3.15

UNIVERSAL SPOKE SHAVES

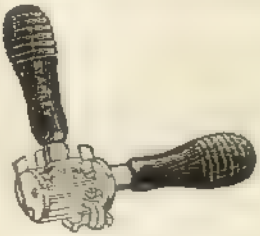

Fig. 15102G

The handles are detachable, and either one can be screwed into the top of the stock enabling the user to work into corners and angles. Two detachable bottoms are furnished, one for straight and the

other for circular work. A movable width gauge allows the tool to be used in rabbeting.

Nickel-plated; rosewood handle, 9¼ inches long; cutter, 1⅞ inches.

Price.....per dozen 22.80

Write us Your Requirements for Goods Not Listed.

PYREX OVEN WARE

ROUND CASSEROLES

Fig. 39805A

No.	U. S. Trade Size Quarts	Outside Measurements Inches	Price Each
100	2½	9¾x3½	3 00
101	2	9 x3¹	2.50
102	1½	8¼x2⅞	2 00
103	1	7¼x2¼	1.75
104	½	6¼x2¼	1.25

ROUND CASSEROLES
SHALLOW

Fig. 39805B

No.	U. S. Trade Size Quarts	Outside Measurements Inches	Price Each
112	1	7⅝x2¼	1.75

ROUND INDIVIDUAL CASSEROLES

Fig. 39805C

No.	U. S. Trade Size Ounces	Outside Measurements Inches	Price Each
164	8	4½x2	.75

ROUND CASSEROLES

Fig. 39805D

Fit standard mountings.

No.	U. S. Trade Size Quarts	Outside Measurements Inches	Price Each
167	1	7¼x2⅝	1.75
168	1½	8¾x2⅞	2.00

OVAL CASSEROLES

Fig. 39805E

Fit standard mountings.

No.	U. S. Trade Size Quarts	Outside Measurements Inches	Price Each
193	1	8⅜x6¼x2⅞	1.75
197	1½	8⅜x6¼x3⅝	2 00
194	2	9½x7 x3¾	2 50

COLD MEAT PLATTERS

Fig. 39805F

No.	Outside Measurements Inches	Price Each
710	11x5¾	1.25

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PYREX OVEN WARE

OVAL CASSEROLES
SHALLOW

Fig. 39806A

No.	U. S. Trade Size Quarts	Outside Measurements Inches	Price Each
183	1	9 x6 1/8x2 3/8	1.75
184	1 1/2	10 5/8x7 3/4x2 3/8	2.00

ROUND BAKING DISHES
SHALLOW

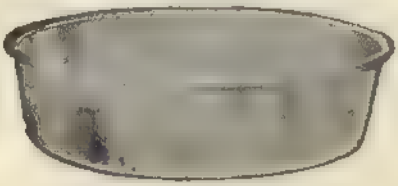


Fig. 39806B

No.	U. S. Trade Size Quarts	Outside Measurements Inches	Price Each
132	1	7 3/8x2 1/4	1 00
155	1 1/2	8 1/4x2 1/4	1 25

OVAL BAKING DISHES
SHALLOW

Fig. 39806C

No.	U. S. Trade Size Ounces	Outside Measurements Inches	Price Each
400	9	6 1/4x4 1/2x1 3/8	50
401	10	6 5/8x4 1/8x1 1/2	.55
402	12	7 1/2x5 1/4x1 1/2	65
403	18 1/2	8 1/2x6 1/8x1 5/8	.75

ROUND BAKING DISHES
STANDARD

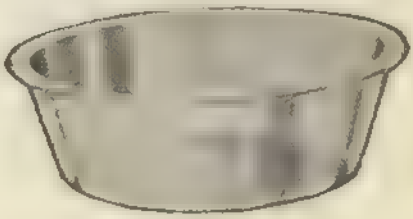


Fig. 39806D

No.	U. S. Trade Size Quarts	Outside Measurements Inches	Price Each
464	1	7 1/4x2 1/2	1 00
465	1 1/2	8 1/4x2 3/4	1.25
466	2	9 1/8x3	1.50

ROUND BAKING DISHES
DEEP

Fig. 39806E

No.	U. S. Trade Size Quarts	Outside Measurements Inches	Price Each
120	2 1/2	9 3/4x3 1/2	1.75
121	2	9 x3 1/4	1 50
122	1 1/2	8 1/8x2 7/8	1 25
123	1	7 1/8x2 1/2	1 00
124	1/2	6 3/8x2 1/4	75

INDIVIDUAL PIE DISHES
ROUND, SMALL

Fig. 39806F

No.	U. S. Trade Size Ounces	Outside Measurements Inches	Price Each
452	6	4 1/4x1 1/8	.30
453	8	4 3/4x1 3/4	40
455	12	5 1/4x1 7/8	.50

PYREX OVEN WARE

OBLONG BREAD PANS

Fig. 39808A

No.	Outside Measurements Inches	Price Each
212	9[illegible]x5[illegible]x2[illegible]	1.00
214	$10\frac{5}{8}$x$5\frac{5}{8}$x$3\frac{3}{8}$	1.75

ROUND BEAN POTS

Fig. 39808B

No.	U. S. Trade Size Quarts	Outside Measurements Inches	Price Each
502	$\frac{1}{2}$	$5\frac{3}{8}$x$3\frac{1}{4}$	1.25
504	1	$6\frac{3}{4}$x$4\frac{1}{8}$	2.00

PERCOLATOR TOPS
PYREX STYLE

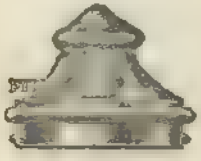


Fig. 39808C

No.	Outside Diameter Inches	Height Outside Inches	Price Each
953	$2\frac{1}{8}$	$1\frac{3}{8}$	.20

Fits Universal and Royal Rochester style percolators.

OBLONG UTILITY DISHES

Fig. 39808D

No.	Outside Measurements Inches	Price Each
231	$10\frac{1}{2}$x$6\frac{1}{2}$x2	1.25
232	$12\frac{5}{8}$x$8\frac{1}{8}$x2	1.75

MUSHROOM DISHES
WITH HANDLES AND BELL COVER

Fig. 39808E

No.	Outside Measurements Inches	Price Each
642	$6\frac{7}{8}$x$4\frac{1}{8}$	1.25
645	$8\frac{1}{2}$x$5\frac{1}{8}$	1.50

ROUND BELL COVERS ONLY

No.	Outside Measurements Inches	Price Each
652	4	.55
655	5	.60

PERCOLATOR TOPS
ROUND KNOB

Fig. 39808F

No.	Outside Diameter Inches	Height Outside Inches	Price Each
954	$2\frac{1}{8}$	$2\frac{1}{8}$	.25

Fits Universal or Royal Rochester style percolators.

Write us Your Requirements for Goods Not Listed.

PYREX OVEN WARE

ROUND DISHES
WITH HANDLES

Fig 39807A

No	Outside Measurements Inches	Price Each
301	8 1/2x1 1/2	.90
302	6 7/8x1 1/8	.70

OVAL DISHES
WITH HANDLES

Fig. 39807D

No.	Outside Measurements Inches	Price Each
322	10x6 1/2x1 1/2	1.00

ROUND PIE PLATES
WIDE RIM

Fig. 39807B

No.	Outside Measurements Inches	Price Each
201	9 5/8x1 1/2	1.00

ROUND PIE PLATES

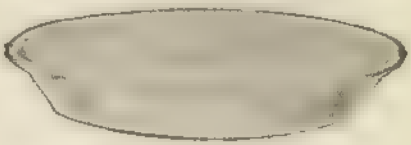


Fig 39807E

No	Outside Measurements Inches	Price Each
202	8 3/8x1 1/8	90
203	9 1/4x1 1/2	1.00

HEXAGONAL PIE PLATES

Fig 39807C

No.	Outside Measurements Inches	Price Each
1203	9 3/4x1 1/4	1.25

ROUND CAKE DISHES
SHALLOW

Fig 39807F

No.	Outside Measurements Inches	Price Each
221	9 1/8x1 1/4	.90

For Nearly a Century the Standard of Service.

PYREX OVEN WARE

GIFT SETS

PACKED IN ATTRACTIVE BOXES

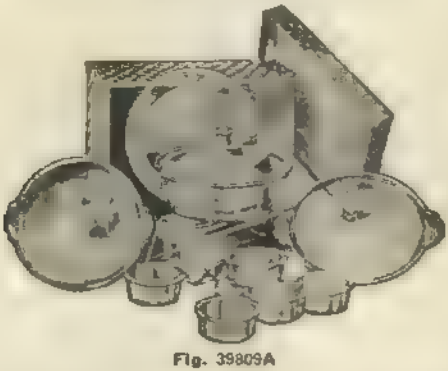


Fig. 39809A

Each set contains:

1 No. 168 Casserole, Round, 1½ Quarts	1 No. 322 Oval Dish, with Handles
1 " 212 Cake or Bread Baker	1 " 202 Pie Plate, 8⅝ inches
1 " 301 Round Dish with Handles	6 " 432 Individual Baker, Round

Number	1216	*1216E
" of Pieces	11	11
Price per set	7.00	12.00

*This is the engraved gift set containing the same pieces and is attractively engraved in the distinctive wreath design

INDIVIDUAL BAKERS—RAMEKINS

No 442 Wide Rim

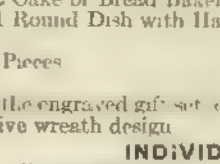


Fig 39809B

No 432 Narrow Rim

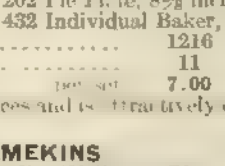


Fig. 39809C

No.	Style Rim	U. S. Trade Size Ounces	Outside Measurements Inches	Price Each
442	Wide	4	$3\frac{3}{4}$x$1\frac{1}{2}$	.25
432	Narrow	$3\frac{1}{2}$	$3\frac{1}{8}$x$1\frac{3}{8}$	.20

CUSTARD CUPS

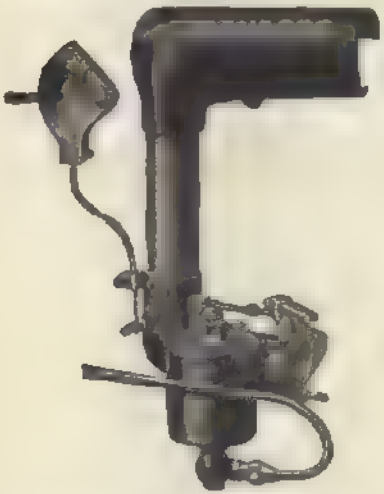
Fig. 39809D

No	U. S. Trade Size Ounces	Outside Measurements Inches	Price Each
422 Round	6	4 x$2\frac{1}{4}$	.30
423 "	4	$3\frac{1}{2}$x2	.25
427 Oval	5	$4\frac{7}{8}$x$3\frac{1}{2}$x$1\frac{5}{8}$	.35

Write us Your Requirements for Goods Not Listed.

STROMBERG CARBURETORS

TYPE LF—FORD EQUIPMENT



This is the new style Stromberg Carburetor made especially for Ford cars Fits in the same position as the carburetor that comes with the Ford car Can be put on quickly with wrench and pliers. One screw puts on the hot air housing; no change is necessary in the gasoline line and the carburetor itself goes right onto the old manifold

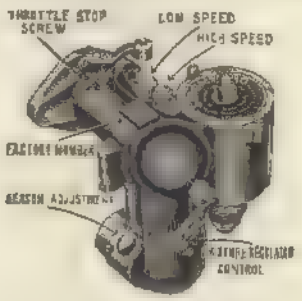
The adjustments are simple and anyone can make them—high speed and idling. The carburetor is of the plain tube type and equipped with what is known as an economizer. A car can be driven with perfect smoothness of operation at a speed of five to thirty-five miles an hour on less gasoline than it takes to run below or above this mileage.

For this reason and on this principle, the economizer was developed. It controls the needle valve which regulates the gasoline flow so that at all times the mixture is cut down to minimum

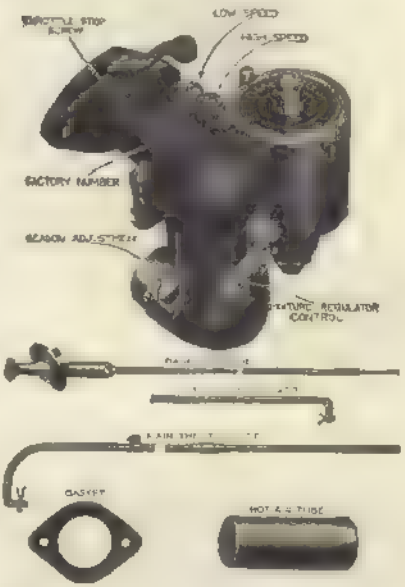
Comes complete with housing, tubing and steering post control. The most economical carburetor yet produced for a Ford car. One set in a box. Weight, boxed, 10 pounds

Price, Complete..... 19.00

TYPE MD SPECIAL FOR DODGE



This new model Stromberg Carburetor is made especially for the Dodge car. It fits in the very same position as the carburetor with which the car is equipped The installing is a very simple matter and can be done by anyone in a very short time with wrench and pliers



This carburetor comes complete with all necessary equipment for its installation such as dash control, hand throttle rods, gasket, etc. Comes one set in a box weighing 11 pounds

Price, Size 1-inch, Complete..... 19.00

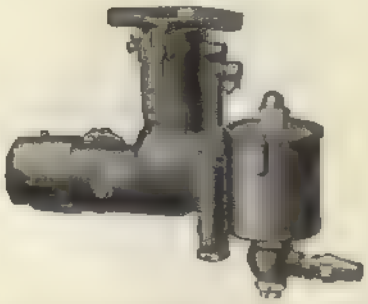
Write us Your Requirements for Goods Not Listed.

For Nearly a Century the Store of Service.

STROMBERG CARBURETORS

MODEL M

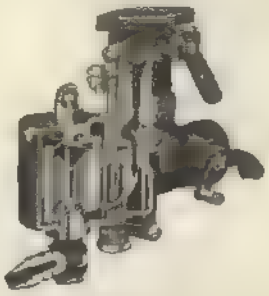
TYPE M



This new Stromberg Carburetor differs from older styles in that it is a plain tube type, having the air passage fixed in size, while the gasoline is metered automatically and accurately through a single orifice by the air flow.

In developing this carburetor, it has been the manufacturers idea to deliver to the public an instrument that is efficient in operation, simple in construction, and extremely easy to adjust.

SECTIONAL



The M and MB Stromberg Carburetors are especially adapted for use on four-cylinder motors. These carburetors have also proven themselves superior on such varied lines as motor trucks, motor boats, tractors, and stationary engines.

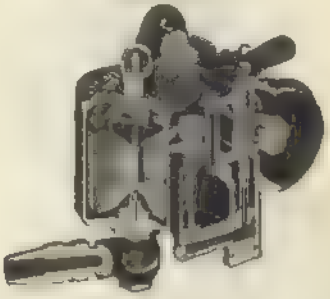
Number.....	¾	1	2	3
Size....inches	¾	1	1¼	1½
Price.....each	20.00	22.50	25.00	27.50
Number.....	4	5	7	9
Size....inches	1¾	2	2½	3
Price.....each	35.00	47.50	75.00	85 00

The above prices are for carburetor only.

TYPE MB

In developing these carburetors for the market, nothing has been overlooked, for they have been so designed to deliver maximum speed, power, acceleration, and flexibility, all in addition to the greatest economy. In addition to this, they are extremely easy to regulate, having only two adjustments, one for idling and extreme low speed, while the second controls the gasoline delivered to the motor at all higher speeds.

SECTIONAL



These control the mixture positively without requiring the use of springs, air valves, or moving parts, and in such a way that new adjustments are not necessary to take care of various altitudes and slight changes in temperature.

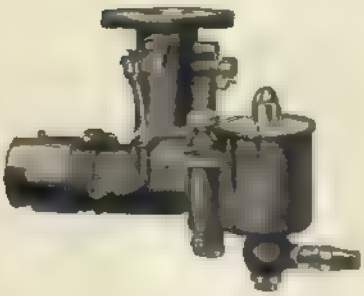
There are only two adjustments in this instrument—high speed and idle—each acting individual of the other, making the most effective and efficient adjustment easily obtainable by the average operator.

Number.....	1	2	3
Size.....inches	1	1¼	1½
Price (Carb. only) ea.	22.50	25.00	27.50

STROMBERG CARBURETORS

MODEL L

TYPE L



This new Stromberg Carburetor differs from older styles in that it is a plain tube type, having the air passage fixed in size while the gasoline is metered automatically and accurately through a single orifice by the air flow. It has been designed to handle the present grade of fuel in a most effective manner throughout the entire motor range, and under every climatic condition.

The L and LB Stromberg Carburetors are especially adapted for use on high speed multi-cylinder motors, particularly

SECTIONAL

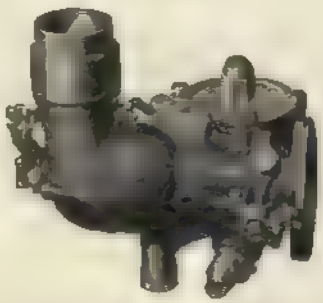
for use on pleasure cars, where the utmost range of performance is demanded.

As all the air is taken in through a single inlet, an ample amount of hot air is easily provided to handle the heavy grades of fuel. This provision also practically eliminates the dangers from backfires, and allows the air to be taken from any source most convenient

No.	1	2	3
Size.....inches	1	1¼	1½
Price..... each	25.00	27.50	35.00

The above prices are for carburetor only

TYPE LB



In developing these carburetors for the market, nothing has been overlooked, for they have been so designed to deliver maximum speed, power, acceleration, and flexibility, all in addition to the greatest economy. In addition to this, they are extremely easy to regulate, having two main adjustments, one for idling and extremely low speed work, while the second controls the gasoline delivered to the motor at all higher speeds. These control the mixture positively, without the use of springs or air valves, and in such

SECTIONAL

a way that new adjustments are not necessary to take care of various altitudes and slight changes in temperature.

These carburetors are guaranteed to operate satisfactorily on any standard motor when properly installed and adjusted, and if the size and type recommended by us does not give entire satisfaction, it may be returned any time within thirty days from date of invoice, when the full purchase price will be refunded

Price, No. 1, 1-inch (Carb. only) each 25.00
" " 2, 1¼-inch " " " " 27.50

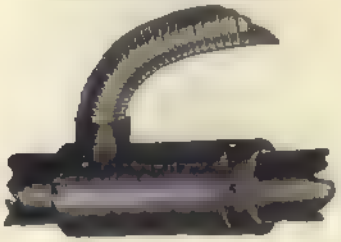
Write us Your Requirements for Goods Not Listed.

For Nearly a Century the Store of Service.

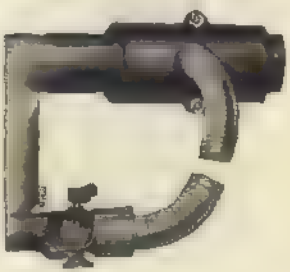
STROMBERG CARBURETORS

AIR HEATERS

ROUND SHELL HOUSING



HALF SHELL HOUSING



Smooth running depends primarily upon complete vaporization of all the gasoline passing through the carburetor. To get this result the carburetor must be supplied with warm air to vaporize the heavy grade of fuel now used. This is especially true in cold weather.

The Stromberg Manifold Housing Equipment introduces the warm air drawn from around the exhaust manifold into the air intake of the carburetor. This heated air completely vaporizes the gasoline, thus creating a more homogeneous and combustible mixture, particularly in cold weather. The result is increased economy and smoother running.

Order housing to fit outside diameter of exhaust pipe at point where you wish to connect.

HOW TO INSTALL

Fit heater around the exhaust manifold at convenient point and clamp into position. Measure off necessary length of flexible tubing and fit one end into the air horn of the carburetor, fastening into position with a cotter pin. Be careful to drill holes so that cotter pin will not interfere with the action of the throttle valve in the air horn. Then fit the other end of the tubing into the flange of the housing and tighten in position with set screw.

SHEET IRON ROUND SHELL HOUSINGS

Part No.	Exhaust Diam. Inches	Flex. Tube	Price Each
P-4863	1 1/2	1 1/4	2.50
P-4862	1 1/2	1 1/2	2.50
P-6455	1 3/4	1 1/4	2.50
P-4865	1 3/4	1 1/2	2.50
P-4750	2	1 1/2	2.50
P-4804	2	1 1/4	2.50
P-5080	2 1/4	1 1/2	3.00
P-4930	2 1/2	1 1/2	3.00
P-5230	1 3/4	1	2.50
P-6459	2 1/8	1 1/4	2.50
P-5659	2 1/8	1 1/2	2.50
P-5741	2 3/8	1 3/4	3.00
P-5835	2 3/4	1 1/2	3.00
P-6457	2 3/8	1 1/4	3.00
P-5941	2 1/2	1 3/4	3.00
P-5942	2 3/8	1 3/4	3.00
P-6065	2	2 1/4	5.00
P-6066	2 1/2	2 1/4	5.00
P-6067	3	2 1/4	5.00

MALLEABLE IRON HALF SHELL HOUSINGS

To be used only when Sheet Iron Round Shell can not be installed.

Part No.	Exhaust Diam. Inches	Flex. Tube	Price Each
A-19	2	1"	1.75
P-3632	2	1 1/4	1.75
P-5792	2	1 1/4	1.75
A-20	2 1/2	1 1/4	1.75
P-4603	2 1/2	1 1/2	1.75
A-24	2 1/2	1	1.75
P-5790	2 1/2	1 1/4	1.75
A-21	3	1 1/4	2.50
P-5080	3	1 1/2	2.50
P-5931	3	1 3/4	2.50

FLEXIBLE METAL TUBING

Best quality steel or Aluminum alloy metal, non rust and absolutely air tight.

Diameter..inches	1	1 1/4	1 1/2
Price.....foot	.60	.60	.75
Diameter inches	1 3/4	2	2 1/4
Price.....foot	85	1 00	2.00

STROMBERG CARBURETORS

STEERING POST CONTROL

This steering post control operates the butterfly valve in the air horn of the carburetor and is especially helpful in producing easy starting and warming up of the motor.

Furnished complete with five feet of tubing and wire.

NOTE.—As this control is made with different size bands for attaching, the diameter of the steering post should be given when ordering

Price, No. P3735—Single Lever Type; Styles L, LB, M, and MB Carburetors.....each **3.25**

Price, No. P4137—Single Plunger Type; All Carburetors.....each **3.25**

SINGLE DASH CONTROLS

Operates the butterfly valve in the air horn of the carburetor and is especially helpful in producing easy starting and warming up of motor.

No. P5670—90° Angle, Nickel-plated; Complete with 42-inch Tubing and Wire. Price.. each **3.25**

No. 5684—45° Angle, Nickel-plated; Complete with 42-inch Tubing and Wire. Price.....each **3.25**

DOUBLE DASH CONTROLS

Operates the strangle valve as well as the butterfly valve, making the governing of the carburetor perfect.

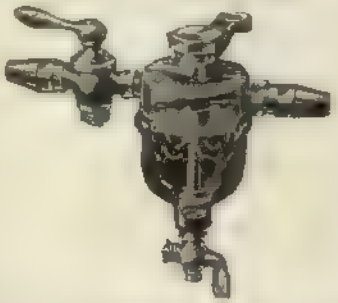
No. 4887—45° Angle Nickel-plated; Complete with 84-inch Tubing and Wire.

Price.....each **4.00**

No. 5039 90° Angle, Nickel-plated; Complete with 84-inch Tubing and Wire

Price .....each **4.00**

GASOLINE STRAINERS



Will remove every particle of foreign substance, including water from the gasoline before entering the carburetor.

No. A16—Complete with Arm Shut-off Cock and Gasoline Connections

Price .....each **3.50**

No. A18—Complete with Arm and Gasoline Connections, without Shut-off Cock

Price .....each **3.00**

No. A17 With Gasoline Connection, without Arm or Shut-off Cock.

Price.. .....each **2.75**

Write us Your Requirements for Goods Not Listed.

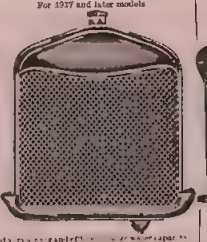
FOR FORD CARS

The [illegible] With [illegible] you will be convinced how great the volume of [illegible] Advertising your wares [illegible] A representative dealer in your town to place stock at a reasonable profit. It will bring a steady business that has rapidly increased [illegible] fits and all around satisfaction. Send us your order and get the best possible value

"PEERLESS" RADIATORS

For 1916 and earlier models

For 1917 and later models



Heavy [illegible] Soldered joints and [illegible] Nickel plated [illegible] Brass [illegible] will not burst [illegible] cracked or broken [illegible] when connected into truck hose or fractures. 1 in crate.

Black Enamel—
4K8410—1916 & earlier models. Each ★ $18.50

Nickel Trim—
4K8407—1917 and later models. Each $21.50

"NATIONAL" ZIG-ZAG RADIATORS

[illegible] the appearance of a [illegible] at a [illegible] Heavy [illegible] Soldered joints and [illegible] Nickel plated [illegible] Brass [illegible] will not burst [illegible] cracked or broken [illegible] when connected into truck hose or fractures. 1 in crate.

Black Enamel—
4K8405—For 1917 and later Fords. Each ★ $19.50
Less [illegible] ★ $18.25

Nickel Trim—
4K8403—For 1917 and later Fords. Each. ★ $21.75
Less [illegible] $20.25

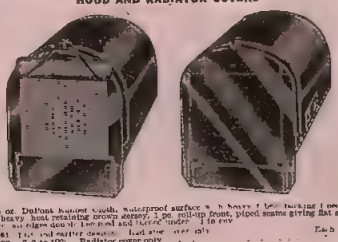
"BULL DOG" RADIATOR SHELL AND HOOD

For 1915 and 1916 Models

Will [illegible] Shell and Hood for 1909 to 1914 [illegible] days after receipt of [illegible] later [illegible]

4K8415—Bull dog type, heavy gauge steel shell 2 coats black enamel, aligns over radiator, covering entire front except radiating surface. 4 pc. hood, waterproof hinges at sides & top, front sets on shell, rear on dash. 1 set in crate [illegible] Set. $11.50

HOOD AND RADIATOR COVERS



24 oz. Dufont [illegible] cloth, waterproof surface [illegible] heavy [illegible] backing [illegible] will not [illegible] heavy heat retaining brown [illegible] 1 pc. roll-up front, piped seams giving flat smooth [illegible] effect [illegible] edges [illegible] hood and [illegible] under [illegible] to envelop [illegible]

4K7861—For all earlier models. Hood cover only Each $1.55
4K7862—1917 to 1920. Radiator cover only " 1.65
4K7863—1916 and earlier models. Radiator and hood cover complete . . . Set (2 pcs.) 2.45
4K7864—1917 to 1920. Radiator and hood cover complete . . . . " 2.85

"PARAMOUNT" COMMERCIAL FENDERS

Heavy gauge steel, two coats lustrous black enamel, baked on. Matches front fenders of the Ford car. Easily attached. 2 in set. 1 set in crate.

4K8505—Especially adapted to fit the new Ford 1 ton truck, equipped with solid tires. Set. $5.75

4K8508—Crown type for regular Ford chassis. Set. $5.75

"CROWN" TOURING CAR FENDER SETS

[illegible] steel, two coats lustrous black enamel, baked on

Complete Set—Front and rear. 4 in set. 1 set in crate

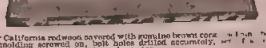
4K8503—Fits 1916 and earlier models. Set ★$15.75
Lots of 6, " ★$15.25
Lots of 12, " ★$14.75
Lots of 24 " ★$14.50

4K8504—Fits 1917 and later models. Set. ➡$17.75
Lots of 6, " ★➡$17.25
Lots of 12 " ➡$17.00
Lots of 24, " ➡$16.50

Front Only—3 in set, 1 set in crate.
4K8500—For 1916 and earlier models. [illegible] Set. ★$10.25
[illegible] Fits 1917 and later models Set ★$10.25

Rear Only—3 in set, 1 set in crate.
4K8501—Fits all models Set ★$8.50

LINOLEUM COVERED RUNNING BOARD



4K8915—Clear California redwood covered with genuine brown corr[illegible] linoleum and [illegible] with [illegible] aluminum molding screwed on, bolt holes drilled accurately, set [illegible] Pr. $5.30
bolts supplied, easy to attach. 1 pr. in carton

RADIATOR, HOOD, SHELL AND SHIELD

For 1915 and 1916 Models

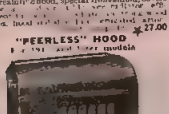
STREAM LINE HOOD

SPECIAL FWD GUARD

4K8416—Heavy gauge steel, black enameled [illegible] hood, special [illegible] shield, covers [illegible] ★ $7.00

"PEERLESS" HOOD

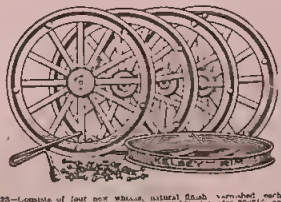
[illegible] and later models



4K8413—[illegible] coats black enamel. [illegible] rigidly bolted [illegible] Each $6.75

Kelsey Wheel and Rim Set

The best wheel and rim set on the market at this price



4K9733—Consists of four new [illegible] natural finish [illegible] each wheel complete with well known Kelsey demountable rim, size 30x3½, one extra rim, brace, wrench and 24 hub bolts. 1 set in crate.

Set. ★$23.75 Lots of 25, Set. ★$23.25 Lots of 50, Set. ★$22.75

FOR FORD CARS

CARBURETORS

"Kingston" — Troubleproof simple machine built of few parts; even flow of gas assisted down by walk of accelerator to highest speed. 1 in pkg.
4KP635—Model L2 Standard type. ..... Each, $4.80
4KP634—New Model L25 type with fuel strainer and separator ..... Each $5.25

"Brubaker" Model A is a marvelous gas conservator for use on all cars and trucks. Furnishes rich mixture for acceleration and quick starting. Fits all stock cars with air intake; must state if for Ford, Chevrolet or Buick series and the size.
4KM—1 in a pkg. $12.00

FOOT ACCELERATOR

"Reliable"—Steel and malleable iron with brass fittings, connects directly with carburetor, simple and efficient, easily installed.
4KR625—1 in box. Each, 65c

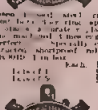
Adamson 4 Lite Shield assembly of Lucite casings for color finder lens in all stroke lamps. Lens protect gas to drilling speed when pressed. ..... easily installed.
4KD930—1 in box. Each, 85c

MUFFLER

4KR544—22 gauge, 12x6 in. sheet steel cylinder, reduces exhaust noise. ..... Complete with clamps and tube. Not to be confused with cheap muffler which is ..... Powerful tone springs ..... muffler with metal and tube ..... Each $1.25
Lots of 12 ..... 60c

TIMERS

Model ..... steel case ..... ring spark ..... Complete ..... Used ..... model ..... engine ..... perfect ..... specially ..... adjusting shortpivot roller
4KM1D—1 in box
Each, 85c
Lots of 12 ..... 80c
Lots of 25 ..... 75c



Goodrich ..... model ..... ment, quick hot sparks, guaranteed.
4KG650—1 in box
Each, $1.05
Lots of 10, ... 95c

Ultra ..... unit ..... model ..... accessory ..... genuine ..... joined
4KM95—1 in box
Each $1.20
Lots of 1.15

"Remus" Improved — Ball contact, heavy ground ..... adjustment, makes ..... starting ..... Each $1.70

"HYGRADE" CUT-OUT SET

4KM781 ..... chromeplated ..... Each ..... Lots of 12 ..... $1.40

COMPLETE CONNECTING ROD

4KR6865 Highest grade material superior to most rods on the market, is equal to any, interchangeable with regular Ford rod. Complete with babbitt bearing, 1 in pkg.
Ea. $1.10 Lots of 10, Ea. $1.05 Lots of 25, Ea. $1.00

"PEPCO" PISTON RINGS

Lap joint, ... ring ..... inside scale preserved to insure ..... action under intensive heat, accurately ..... chrome.

4KT7851	3¾ x ¼,	
4KT7838—	" .0025 ov. size	
4KT7833—	" .005 "	
4KT7835—	" .025 "	
4KT7836—	" .0312 "	
	Doz.	$1.30

Lots of 100 Per C. $ 50
Lots of 500 Per C. 9.00

"STANDARD" FAN ASSEMBLY

Used ..... 1926 .....

4KR4565—Duplicate of the original ..... Ford ..... Each
Lots of 6, Each 90c
Lots of 25 ..... 75c

FAN BELTS

Patent Clamp Belt—Heavy ..... with ..... rubber ..... strands ..... canvas ..... reinforced ..... cord ..... patent clamp, ... lock in carton.
4KB6— For 1918 and earlier models ..... Doz. $2.40
4KB573—For 1917 and later models ..... Doz. $2.40

4 ..... belt ..... belt ..... belt ..... and ..... waterproof ..... reinforced ..... cord ..... and ..... ply ..... canvas ..... Each $3.60
4KB5— ..... Each $4.50

Quick Detachable Belt — Heavy oak ..... tanned ..... stands ..... duction of ..... mineral oil better ..... than any ..... belt.
4KB4— For 1918 and earlier models ..... Doz. $3.28
4KB— For 1917 and later models ..... Doz. $3.50

Specially Treated Fabric Belt—All ..... and waterproof, ... reinforced ..... switch, cannot ..... stretch, guaranteed ..... against ..... defects. ½ doz. in carton.
4KB578—1918 and earlier models ..... for $2.95
4KB— ..... 1917 and later ..... Doz. $3.50

ANCO EVENHEAT MANIFOLD

4KR734 — Fits all models of Ford cars in place of old style manifold without cutting ..... of the ..... pipes ..... to fit ..... new ..... and will ..... and ..... running ..... Each $6.50

"APCO" 1 PC. MUFFLER @ CUT-OUT

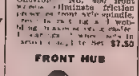
A well known big selling cut-out that will pay you well to handle.

4KR667 Cast 1 pc. ..... for ..... mufling device, ... by 2 side ..... plate ..... Complete with ..... and ..... ware included in carton.
Each **$3.50**

SHAFER ROLLER BEARING SET

4KR590 1 ..... Ford car or Chevrolet ..... No. 490 ..... Eliminate ..... friction ..... power ..... Complete ..... set ..... Ford ..... Chevrolet ..... Each $7.50

FRONT HUB



4KR691 Ford No. 2903C ..... ball ..... carefully ..... and ..... complete ..... with ..... Each, $1.50
Lots of 6 or more, ... 1.45

COMPLETE BALL-BEARING ASSEMBLY For Front Wheels

4KR695—Standard ..... and 3 in ..... and ..... outs ..... de ..... pers ..... equipped ..... with ..... steel ..... ball ..... bearings. ..... Set of 4 in box
Set, $1.40
Lots of 10 sets, " 1.30

HYATT REAR AXLE ROLLER BEARINGS

Standard equipment on all Model T Ford Cars. Complete bearing consisting of roller assembly and outer race, 1 in pkg
4KR688—Right hand
Each, $1.35
4KR687 Left hand
Each, $1.35

"VICTOR" GASKETS

Made of copper ..... and asbestos ..... copper ..... asbestos ..... 4KR714—Complete head gasket, inlet and exhaust pipe, manifold ..... set, common ..... 1 ..... gasket set, 40c

"APCO" CORK GASKET SET

4KR582—Pressed cork, practical, durable, generally advertised ..... 1 set in box
Set, 75c

"SIMPLEX JR." STARTER

4KR515—Lever principle, automatic release in case of backfire, few parts, easily operated and installed, crank remains on car. Guaranteed to turn engine with more speed than the crank. Complete in shipping carton, 12 lbs. ..... Each $5.75
Lots of 6 " $5.50
Lots of 12, " $5.25

BAILEY BALL THRUST BEARING

4KR588 Replaces thrust washers at left (rear) side of Ford or Chevrolet 490 differential housing, each part of an inch. Eighteen ½ in ball bearings, carefully heat treated and ground keeps gears in proper mesh. 1 in box ..... Each, $2.30
Lots of 6 ..... 2.70

"LONG LIFE" BALL-BEARING ASSEMBLY

For Ford & Chevrolet Model 490 Front Wheels.

4KR183 ..... ball ..... bearing ..... rack ..... ½ ..... diameter ..... wear ..... ½ ..... ½ ..... pound ..... break ..... or ..... wear ..... of ..... the ..... spindle. ..... Easily ..... installed. Complete ..... set ..... of ..... two ..... outer ..... and ..... two ..... inner ..... bearings ..... in ..... box. ..... SET (4 pcs.) $2.75

"CONTINENTAL" RADIATOR HOSE

Heavy quality fabric and cover. Specially designed to withstand hot water oil, etc.

4KR625 — Inlet hose, size 1⅝x34 in. 1 doz. in box
Doz. $1.10

4KR626 — Outlet hose, size 2x6 in. 1 doz. in box
Doz. $1.75

FELT WASHERS

4KR533—Set consists of 20 washers, ... making a complete set for the Ford car; first quality heavy felt, ½ doz. sets in carton.
Doz. sets, $6.00

SPENCER STANDARD PISTONS

4KP1281 ..... standard size
4KP1282 .010
4KP1283 .030 oversize
Each $1.40
Lots of 12, $1.60

FOR FORD CARS

ELECTRIC HEAD LAMPS

4K8324—6 in. diam. 1 pc. drawn steel bezel, black enameled pedestal type, fluted parabola shaped reflectors, cord attaches to 6 volt blade bulb. Furnished with cord and double wiring only. For 1916 and later models, special cast bracket support. 1 in box. Pr. $4.75

ELECTRIC TAIL LAMP

4K8320—For 1 1/4 and later models, 4 in. black japanned body, 2 screw attachment, green transparent lens. Furnished with 6 volt bulb. Lens fits into Each 50c
Lens only Each 40c

TAIL LAMP ASSEMBLY

4K8318—Tail lamp switch with combination coil mounted inside, 12 in. cable. When car is stopped the lamp takes current from dry cells and from magneto when engine is running. 1 unit in box Each $1.50

OIL TAIL LAMP

4K8331—For 1911 and later model Fords, 9 in. high with 4 in. drawn round style tip steel body, black enamel all parts riveted metal bolt fastener, crystal, use in the side illuminating oven number, patent screw top air chamber 1 in box Each $1.55

"YANKEE" 1 PC. OIL TAIL LAMP

4K8332—For 1915 and later Fords, 9 in. brass oil lamp, 1 piece body, black enamel finish, 2 screw attachment bolt fastener, crystal, use in the side illuminating oven number, patent screw top air chamber 1 in box Each $1.50

BATTERY CONNECTOR

4K8336—"Standard," braided covered corrugated copper terminals 100 in pkg. Per 100 $1.35

HEADLIGHT REFLECTOR

4K8327—Drawn parabola shape, highly polished & silver plated 1 pr. in box. Pr. $1.50

PARTS FOR FORD LAMPS

Door Only—For 1915 and later models, 9 in., black enameled
4K8335—1 in box Each 35c
Door and Glass—For 1915 and later models, 9 in. black enameled
4K8336—1 in box Each, 50c

WIRING OUTFITS

Spark Plug Set—Tinned terminals, copper terminals coiled for connection
4K8337—Set in pkg. 25c

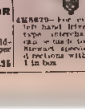
Ignition Harness—18 gauge copper wire rubber insulated, braided cover, each wire with copper terminals and differ. ent color covered braid, oil and waterproof jacket. 9 set in box
4K8338—4 wire set, Set 47c
Lots of 10 sets, 45c
4K8339—3 wire set, 3 wire for magneto light Set 35c
Lots of 10 sets, 33c
4K8340—2 wire set, Set 19c
Lots of 10 sets, 18c

Ignition Harness, Metallic Covered—18 gauge copper wire, rubber insulated, metallic covered, each wire with differ. ent color braid, oil and waterproof jacket. 9 set in box
4K8341—4 wire set, Set 80c
Lots of 10 sets, 75c
Ignition Harness, Loom Covered—18 gauge copper wire, loom covered heavy braid, oil and waterproof. 4 in set
4K8342—4 wire set, Set 90c
Lots of 10 sets, 85c
4K8343—3 wire set, for Fords equipped with storage battery and self starter, wires 4 ft. long Set $1.30
Lots of 10 sets, $1.25

SPEEDOMETER SHAFTS

4K8360—53 in., for 1915 and 1916 Ford models, also for Jones and Stanford speedometers 1 in box. Each, $1.40
4K8361—56 in., for Stewart speedometers. 1 in box. Each, $1.50

"STEWART" SPEEDOMETER SWIVEL JOINT



4K8370—For use between right or left hand lower front universal joint and speedometer driving gear, to take up lost motion, noise and wear on connecting shaft. Fits all models with metal universal joints. 1 in box Each $2.00

IGNITION

DASH COIL UNIT

4K8251—For Ford cars up Ford Touring. Only high grade materials are used guaranteed in every respect. 1 in carton Each, $1.95

COIL BOX PROTECTING

4K8257—For coil box [illegible] Fords. Made of [illegible] steel and nickel plated. Protects coil from dirt, moisture and mechanical injury. 1 in box Each 60c

4K8701—Stamped sheet steel hand finished, easy to install. Takes 6 inch dial horn. Can be used on Ford cars with 2 point suspension. Furnished with necessary nuts and screws. 1 in box Each $1.25

JERICHO "FOGG" HORN

4K8084—For Ford and Metz cars, to be attached between engine and muffler, complete with pedal, chains, cable and directions Each $3.95

GOODRICH SWITCH WITH YALE LOCK

4K8933—1 Body [illegible] nickel plated [illegible] with [illegible] 1 in carton Each $1.50
Lots of 6 1.50

"SIMPLEX" STEERING WHEEL LOCK

4K8386—Approved by underwriters' laboratories with a new 4 [illegible] positive [illegible] Chrome [illegible] Each $4.00
Lots of 6, 3.75

"PERRY" STEERING WHEEL LOCK

4K8365—Approved by Underwriters' laboratories and insurance companies allow at least 15% reduction in insurance rates when used. Has steel [illegible] cannot be [illegible] wrong way [illegible] 2 keys [illegible] Each $5.25

DRIVE SHAFT

4K8346—Heat treated, hot rolled steel accurately machined and ground. Each, $1.75

AXLE SHAFT

4K8845—Guaranteed 45-55 carbon high pressure, heat treated steel, w. U-be
Each $1.10
Lots of 10 1.05
" 25 1.00

"Stewart" Speedometer and Instrument Board

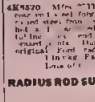
A well known advertised Ford accessory

4K8828—(Offer 1603) Heavy wood instrument board, black satin egg-shell finish. Speedometer has 3 in. dial face, black enameled flange. Tungsten steel magneto, fully leveled in with rotating spool dial, 100,000 [illegible] season and 100 mile trip odometer, resets to zero tenth of a mile. Complete with fittings and attaching equipment for Ford cars. 1 in pkg. Each, **$10.80**

FRONT RADIUS ROD

4K8270—Made of [illegible] Rod or rear axle set for use on [illegible] and open. From axle head to [illegible] 1 in carton Each $1.60
Lots of 6 1.50

RADIUS ROD SUPPORT

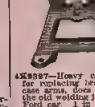


4K8521—Made of [illegible] in angle iron steel, black enameled [illegible] Each, 60c

"APCO" STEERING COLUMN BRACE

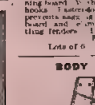
4K8648—Black enamel iron, attaches to upper part of dash to steering column at other, prevents vibration making steering column solid. Complete with bolts, nuts and screws. 1 in carton Each 67c

HUDSON CRANK CASE REPAIR ARM



4K8897—Heavy cast metal for replacing broken crank case arms, does away with the old welding job, fits any Ford car 1 in box. Each $1.10

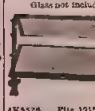
RUNNING BOARD BRACE



4K7745—[illegible] in steel, angle bars, black enameled [illegible] Each, $1.30
Lots of 6 1.25

VENTILATING WINDSHIELD FRAME

Glass not included.

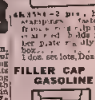


4K8326—Fits 1915 to 1920 model s, heavy steel [illegible] nickel plated [illegible] with [illegible] 1 in carton. Each, $8.76

WINDSHIELD ATTACHMENT

4K8327—For converting regular windshields on 1915 to 1918 Fords into rain, vision and ventilating types. Heavy steel, black enameled adjustable from seat, type folds down, may be tilted forward, completely locks [illegible] 1 in box Each $2.50

FRONT LICENSE BRACKET SET



4K8344—2 pcs., heavy steel stampings, fastens under front axle, 2 pcs. black enameled brass front number plate [illegible] set in pkg. Dos. sets, Dos. sets $1.50

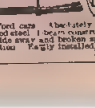
FILLER CAP GASOLINE GAUGE

4K8670—Steel tube malleable iron cap, nickel plated, brass float. Stem to spiral switch, pointer consists of the tank at all times, head contains etched dial and indicator 1 in box, Each 35c

"APCO" METAL OIL GAUGE

4K8668—No glass tube to break, metal chamber containing float and rod with [illegible] which shows oil level and is always in sight. Installed in [illegible] pressure type pet cock in gauge. Fits any Ford car. Each, $1.50

cock thread gauge in its place and screw pet cock in gauge. Fits any Ford car. Each, $1.50



Dos. $7.95

BODY AND FENDER BRACE

4K8516—Fits all model Ford cars [illegible] absolutely guaranteed, best quality, heat treated steel. Insures construction turnbout up ends, prevents side sway and broken springs. Holds the drive shaft in position. Easily installed. 1 in pkg. Each, $2.40

FOR FORD CARS

TRANSMISSION LINING SETS

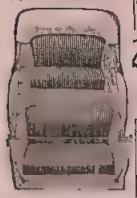
...8 strips cut to correct lengths with brass rivets, made with oak wood to prevent short circuits.

...Tuflex ... for Ford cars, ... to ... 4K9... ... 4K9... ... 4K9...

FOR FORD CARS

GORDON JIFFY CUSHION SLIPS

A fine straw fit 90% of cars. Attaches with thumb tacks on top and adjustable elastic straps under cushion. Easily removed, washable. Colors may vary. Just right with tacks and directions.



Gordon's No. 600 herringbone weave cloth with tan alternating narrow stripes.

4K7829 — Mfrs. Model C, 30 Ford sedan ... Each $1.67

4K7830 — Mfrs. Model J, for all individual front seats, except Ford Sedan ... Each, $1.67

4K7831 — Mfrs. Model A, Ford front seat, and runabout ... Each, $1.83

4K7832 — (Mfrs. Model D) Ford rear seat touring ... Each, $1.83

4K7832 — (Mfrs. Model C) 34 to 37 in. Ford front seat touring ... Each $2.00

4K7833 — Mfrs. Model D, 37 to 41 in rear seat ... Each $2.00

4K7834 — Mfrs. Model E, 38 to 41 in. front seat ... Each, $2.00

4K7835 — (Mfrs. Model F, 42 to 44 in. rear and Ford Sedan ... Each, $2.00

4K7836 — Mfrs. Model G, 42 to 44 in. front and rear Ford Coupe ... Each, $2.00

4K7837 — (Mfrs. Model H, 48 to 50 in. rear seat ... Each, $2.00

"HASTINGS" GLASS REAR WINDOW SET

4K4180 — For 1915 to Ford cars. Best grade double strength glass, highly polished metal parts, all without holes. Price worth down in set. 1 set in carton. SET (3 pcs.) ... $2.00

CELLULOID REAR CURTAIN LIGHTS

For replacing old or broken curtain lights.

4K8381 — Size 11x18 in. For Ford cars, each in pkg. ... Per $2.75

4K8382 — Size 11x18 in. For Ford cars each in pkg. ... Per $4.25

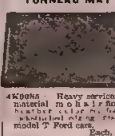
AUTO COMFORT CUSHION

4K3480 — Heavy cover grained imitation leather, welted edges padded, seat wrapped, 1 in pkg... Each, 85c

RUBBER FLOOR MAT

4K9096 — Size 14-15 and over models, high grade rubber, reinforced at heel-wearing spots. Extra heavy cover and pedals. Finished edges. Mats each has tie fastened with regular Ford equipment in pkg. ... Each, 85c. Lots of 10 ... 95c

TONNEAU MAT



4K9095 — Heavy serviceable material mohair finish leather rubber reinforced edging for a model T Ford cars. Each, 85c. Lots of 12 ... 90c

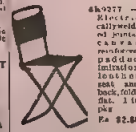
"UNIQ" FLOOR MAT OUTFIT

4K9 10 ... [illegible] with [illegible] mat, universal [illegible] mum hee. plate 1 set in carton ... Each $4.50

FOLDING AUTO CHAIRS OR STOOLS

4k9276 — Black enameled frame, plenty weight parts, [illegible] padded seat, leather [illegible] Each $1.50

4k9277 — Kitchen enameled [illegible] reinforced padded imitation leather seat and back, folds flat. 1 in pkg ... Ea $2.80



RUBBER PEDAL PAD

4K8638 — Snap-on style, corrugated, positively prevents foot from slipping off the pedals. A high quality rubber 3 in set 1 set in [illegible] ... 25c

LEATHERETTE CUSHIONS

[illegible] type as used [illegible] Ford cars [illegible] covering [illegible] fully sewed [illegible] each, [illegible] springs, one row of buttons in front. 1 in pkg ... Each $7.75

4K8435—For Roadster Seat
4K8438—For Front Touring Seat
4K8440—For Rear Touring Seat.

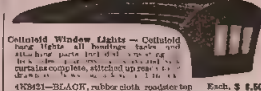
ANTI-DRAUGHT SHIELD

Fits between windshield and top of car. Keeps out snow rain or wind.

4K8441—65 cm. black enameled duck, strong spring clamps, curtain fastener or eyelets that fasten to top. Fits any Ford car ... Each, 85c

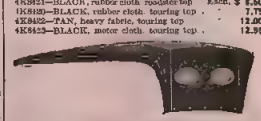
TOP RECOVERS

For 1915 and Later Models



Celluloid Window Lights — Celluloid hard lights all bindings tacks and stitching parts [illegible] curtains complete, stitched up rear [illegible] drawn [illegible]

4K8421—BLACK, rubber cloth roadster top ... Each, $ 6.50
4K8420—BLACK, rubber cloth touring top ... 7.75
4K8422—TAN, heavy fabric, touring top ... 12.00
4K8423—BLACK, motor cloth, touring top ... 12.95



Glass Window Lights—Oval plate glass lights in rear curtain [illegible] tacks [illegible] tack down
4K8636—BLACK, 33 oz. rubber cloth, touring top, 1 in box ... Each $11.50

SEDANETTES—For 1915 and Later Models

Shipments F. O. B. factory, Wabash, Indiana

The Sedanette is installed in connection with regular Ford Top. No change in standard equipment necessary. Consists of [illegible] with [illegible] glass [illegible] nothing to get out of order easily installed. Each complete with [illegible]

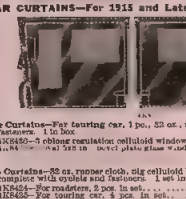
4K8440—For Touring Car ... Each, $65.00
4k8 06 For Roadster ... 48.00

FAULTLESS SLIP SEAT COVERS

Tan leather bound edges, beautifully finished [illegible] Fits [illegible] will shed [illegible] back [illegible] will fit [illegible] [illegible] leather welted [illegible] edges, [illegible] fasteners for attaching. Each set complete except top slip, each in corrugated paper box. Complete set except top slip cover in box with parts for attaching.

Type	Model	
4K7716	Roadster, 1917 & later	Each, $ 8.25
4K7724	Coupe, 1915 & later	10.25
4K7713	Touring, 1917 & later	11.50
4K7720	Sedan, 1915, 16 & 17	15.75
4K7721	" 1915, 16, 20	15.00
4K7735	" 1921	15.00

SIDE AND REAR CURTAINS—For 1915 and Later Models



Rear Curtains—For touring car, 1 pc., 32 oz., rubber cloth, with tacks, binding and fasteners. 1 in box.

4K8430—3 oblong curtains celluloid window lights ... Each $2.45
4K8431—Oval 28x18 inch plate glass window [illegible] Each, $3.35
Lots of 10, $3.15

Side Curtains—32 oz. runner cloth, six celluloid lights, same as original Ford curtains. 1 set in carton.

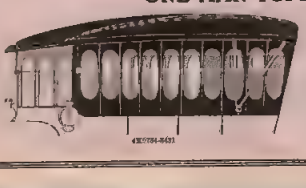
4K8424—For roadsters, 2 pcs. in set ... SET (2 pcs.) $4.50
4K8425—For touring car, 4 pcs. in set ... SET (4 pcs.) $9.25

Goods That Sell Quickly

You will find an excellent variety of standard, well known sellers throughout the showing of Auto Accessories in this catalogue. Consistent advertising has created a ready market for these products and all that is needed is a prominent display to get your share of the business.

ONE MAN TOPS—For 1916 and later models

Well made tops of reliable and weather-resisting materials



Touring Car—Tan color, made of highest grade near [illegible] improved style four bow [illegible] equipped with complete set [illegible] style curtains
4K9764—1 in crate ... $28.50

Touring Car—Improved style, made of heavy grade mohair, built on four bow frame, equipped with latest style jiffy curtains.
4K8431—1 in crate ... Each, $28.50

Roadster—Jiffy curtains covered with waterproof rubber cloth, extra well made an exceptional value at this price.
4K8430—1 in pkg ... Each, $24.50

FOR FORD CARS

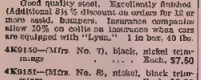
This showing includes some well known items that are called for every day. Our unlimited resources in buying these accessories enable us to quote the very low prices shown here. This is a big asset in helping you defeat competition. Order a good supply of these numbers and realize extra good profits. Immediate delivery.

"LYON" SPRING BUMPERS

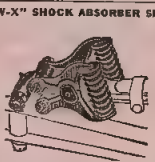
Good quality steel. Excellently finished (Additional 3½ % discount on orders for 12 or more assid. bumpers. Insurance companies allow 10% on colls on insurance when cars are equipped with "Lyon." 1 in bor. 40 lbs.

4K9150—(Mfrs No. 7), black, nickel trimmings . . . . Each, $7.50

4K9151—(Mfrs No. 8), nickel, black trimmings . . . . Each $8.00



"W-X" SHOCK ABSORBER SET



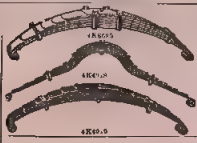
High grade malleable iron, black enameled, strong compression springs, assures easy riding qualities, prevents breaking, will not squeak or rattle. Easily attached. Each set in box with directions for attaching.

4K8812—For Roadster.. . . . . } Set.
4K8813—For Tour car . . . . . } $5.60

"DEPENDABLE" REAR BUMPER With Tire Carrier

4K8178—Heavy angle steel one cast parts, holds 1 or 2 tires, spare wheels on dismountable rims, complete with license and lamp brackets & directions for attaching. No straps furnished. Fits any Ford or Chevrolet, complete with fittings. In carton. 55 lbs. Each, $5.25

GUARANTEED SPRINGS



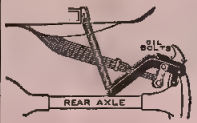
"Titanic"—Guaranteed, less no center bolt or center zip to weaken, patent arch, see illustration) and wedge shaped plate takes place of bolt and nut, strength instead of weakens spring.

4K8305—Front spring . . . . . Each $4.00

"Reliable"—High grade special analysis spring steel with spring steel clip, polished black, guaranteed against defects in workmanship and material.

4K8315—Rear spring . . . . . Each $3.25
4K8191—Front spring 7 leaf. Each $1.80
Lots of 10 " 1.70

WALKER'S "STEEL BILT" SHOCK ABSORBER SET



Light, strong and unbreakable, extra long, all tempered steel springs, self feeding oil bolts on perches, give perfect lubrication, no extra tools or drilling necessary. Each set complete in box with directions.

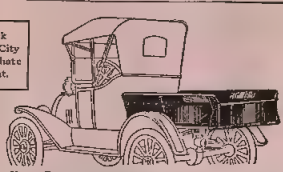
4K8511 Roadster } Set
4K8519 Touring car } $4.00
Lots of 6 " $4.50
12 " $3.85

A BIG ADVANTAGE Mail orders from this catalogue will enable you to have a variety of the kind of goods your customers ask for and keep your investment down to the minimum.

"PARAMOUNT" BODIES FIT FORD CHASSIS FOR COMMERCIAL USE

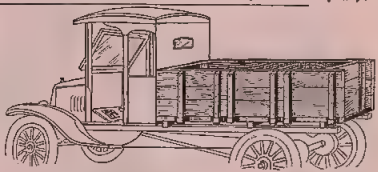
There is always a good market for these bodies because they are in a class by themselves and can be easily attached by anyone.

In stock in Jersey City for immediate shipment.



Slip-on-Bodies—For any Model T Ford Roadster, 33x12 in., loading space, 4-6 in., hardwood floor boards with 6 double braces on each side, 14x6 in. hardwood cross rails, balance of body ⅞ in., hardwood stock, heavy strap hinges. Painted black. Furnished with all necessary bolts. All parts drilled and bored. Crated, K. d., 115 lbs.

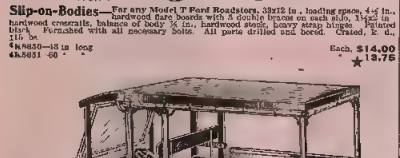
4K8830—38 in long Each, **$14.00**
4K8851 -60 " " **13.75**



All Shipments F. O. B. Factory, Chicago, Ill.

Grain Bodies—For Ford 1 Ton Trucks, 60x30 in. loading space, side panels, 30 in high hardwood body, 2 in. rail all around, hardwood floor strip ed with steel ware plates, well made and strongly ironed, end gate with removable lower piece, to dump grain. When not in use for grain, sides and end panels can be lifted off and body can be used for other purposes. Furnished with parts for attaching.

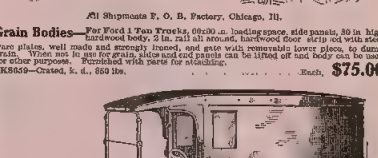
4K8859—Crated, k. d., 850 lbs. . . . . Each, **$75.00**



All Shipments F. O. B. Factory, Chicago, Ill.

Express Bodies—With Cab and Top for any Model T Fords, 43x88 in. loading space, wood body 14 in. panels 12 in. high full width rear, end gate with chains adjustable hardwood floor. Body 30 in. high heavy duc boards 6 post top, heavy brass irons rubber covered doors. Black enameled. Black roll-up curtains all around, square roll-up curtains with large plate lights on both sides, full width, folding lazy back driver's seat. Painted black. Furnished with rear lamp brackets, toe boards and irons for attaching. Crated, K. d. under 24 in., 600 lbs.

4K8854—Body only Each, **$71.00**
4K8856—Windshield for above **18.00**



A 1 Shipments F. O. B. Factory, Chicago, Ill

Closed Bodies—For any Model T Fords, 43x90 in. load ng space, 52 in. high, built up hardwood sides, panel body waterproof, 2 rear doors with glass in top panels, heavily ironed and braced, full width seat. Black painted. Furnished with parts ready for attaching. Very desirable for laundry, hardware and bakery stores.

4K8858—Crated, k. d., 600 lbs... Each **$135.00**

All shipments F. O. B Factory Chicago, Ill.

Express Bodies—With Cab Seat for any Model T Ford, 42x82 in. loading space, full width rear end, gate, with chains enabling one to adjust body to any style load, hardwood sills, cross rails, and three boards panels 10 in. high inside, corners metal bound and re body wi, ironed and braced, floor protected by iron strips 4 double steel braces on each side, lazy back and re with h of seat Painted black. Furnished with rear lamp brackets, toe boards and irons and parts for attaching. Crated, K. d., under 24 in. 600 lbs

4K8853—Body only Each, **$62.00**
4K8856—Windshield for above **18.00**

YOU SAVE MONEY BY BUYING THESE WELL KNOWN BODIES FROM BUTLER BROTHERS

THE FORD SECTION

This Dealer is Doubling His 1920 Car Sales Records

Hard Work and Intelligent Sales Effort, Coupled With Good Service, is Helping to Make These Records

Pleasantville, N. J., Agency Has Good Location and Attractive Exterior With Large Show Windows. Custom Tractor Work Proves an Excellent Advertisement for Power Farming

By J. W. COTTRELL

IS business poor? A great many people say that it is. A good time to expand? Decidedly NO, we are told. And yet, one Ford dealer has, in spite of any and all obstacles, built a service station, handsome in appearance and several times larger than his former place, and this year has sold and is selling TWICE as many cars as his last year's allotment.

It seemed likely that the story of this accomplishment would be interesting and helpful to others at this time. And so the

View of the Office Portion of the New Sales and Service Station of the Pleasantville Motor Co.

This building has a very impressive appearance and cannot be passed without being noticed. The street to the left leads to Atlantic City and to the right to Ocean City and other seashore resorts

FORD SECTION

information here given was obtained in an interview with the Pleasantville Motor Co., of Pleasantville, N. J. The company is a close family corporation and the actual day-by-day management is in the hands of one member of the firm.

The Pleasantville Motor Co. started as Ford dealers two years ago. They opened for business in a store at 9 S. Main Street and went after business energetically. Their allotment was ten cars a month and the sales exceeded this by about 50 per cent

This year, sales have been made at the rate of 25 cars a month and the total for the year is expected to be over 250 cars, or more than twice last year's allotment!

The new sales and service station is situated directly at the end of the Boulevard connecting the Shore Road with Atlantic City, five miles away. Tourists going to Atlantic City make a left turn onto the Boulevard, while directly facing the building.

It is in a very prominent situation and its striking appearance is in keeping with its location. The outside walls are of brick and sections are marked off by brick columns with ornamental designs, in brick, at the top of each.

The sales room has three large windows, two facing the Boulevard and the third facing the Shore Road. The business office, separated from the sales room by a glass

General View in the Shop of the Pleasantville Motor Co.

Workstands and a press are shown, together with grinders, etc. Attention is called to the well-lighted shop which permits the best of work to be done

When we asked what special features of management or business policy made such a record possible we were told that –

"It is the result of carrying out, to the greatest extent possible, the policies and recommendations of the Ford Motor Co. The dealer in Ford cars and tractors is a sales unit—a salesman—for the factory. We take their recommendations in the same spirit that a salesman would take the suggestions of his sales manager."

For illustration, on one side of the sales room is a long counter for the sale of parts. In back of the counter is a partition, about 7 ft. high, which shuts off the parts bins from the sales floor. A Ford official said that the parts bins should be visible from the counter. This partition is to be taken down.

partition, is also well lighted by windows in the front of the building.

The personnel employed includes two men on the counter, four salesmen—two for tractors and two for cars—a bookkeeper and in the shop eight mechanics.

The shop is exceptionally well lighted and is kept clean and in order to an unusual degree. At frequent intervals a clean-day is ordered. All work in the shop is suspended and all hands go to work cleaning floors and putting things to right again, much like "field day" and "Saturday morning inspection" remembered well by our Navy and Army men.

Engine and rear axle stands are used for overhauls of their respective units. The small amount of bench space is quite noticeable. There is only one real work bench in

the whole shop. Of the other two shown, one is a battery stand and the other holds the crankshaft measuring and straightening jig. Work bench space is kept at a minimum, so that tools and odd parts will not accumulate and the shop will be in better order at all times.

There is a large tank for cleaning engines, rears and other assemblies before taking them apart. A brick partition separating the tank from the shop will result in a saving of $450 in insurance each year.

The Pleasantville Motor Co. has sold 12 tractors since April last. As most of the farms in this section are small truck farms the chances for selling tractors seemed small. But the tractors have been sold by hard work and intelligent sales effort.

The cellar for the new sales and service building was excavated with a Fordson tractor pulling a scoop. The architect's estimate was that $1200 would be a very low bid for this work. The cost for the work done by the company's Fordson was $350, and beside the saving in cash the attention attracted by the tractor showed the advertising value of the performance.

Many calls were received for custom work by tractor. This spring a tractor, plow and disk harrow were put on this work. The work done, at the rates prevailing in the section, was done at a profit to the dealer and was a very effective advertisement for power farming.

It was noticed that when a farmer hired the tractor to do, say, plowing he would watch the work very closely, see the depth of the furrows, the quality of the work and the speed with which it was being done. The fact that he was paying for the work made him much more interested than he would have been in a free demonstration. Many sales could be traced directly to the work of the custom outfit

A tractor with solid rubber tires is used, at times, for towing. And a one-ton truck with winch is used for transporting tractors from the farms to the service station and back again.

The keynote of tractor sales work is to study the problem of each individual farmer prospect. See what work he has to do and then think out and plan the work a tractor can do for him and demonstrate that it can be done.

On the wall of the sales room there is a large scale map of Southern New Jersey. Tractor sales are shown by large tacks and a list of the names and addresses of owners is placed beside the map.

Three tacks are shown in Atlantic City. Tractors in the world famous seashore resort! Yes. Two are being used for digging ditches, on the salt marshes or "meadows" near Atlantic City, to eliminate the mosquito. They cut a straight-sided furrow 10 in. wide and 30 in. deep with a special plow. The tractor pulls ahead of the plow, anchors, and then draws the plow up with a cable and winch. Then the tractor moves ahead again and the process is repeated. The third tractor in Atlantic City is used by a contracting firm. On their first job they excavated from 70 to 80 yards of beach sand a day and discarded a clam shell bucket outfit intended for this particular work.

And now a word about service, the factor which makes or loses many sales and makes or breaks dealers.

"Service depends upon two things—willingness and ability. Ability includes knowledge, skill and equipment; willingness requires intelligence, thinking things out, determination.

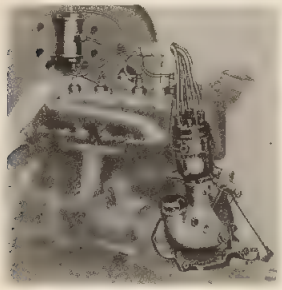
"We had a call from a tourist for a front spring. At the moment we had none in stock. But the mechanic was intelligent; he thought the thing out. He took a spring off a partly assembled new car, put it on the other car and sent the customer on his way.

"The customer, after he reached home, wrote us a letter complimenting us on our service. That letter means a whole lot to us."

Does that sales record seem so improbable now?

Those of our readers who are interested in the descriptions of new equipment should be sure to read the descriptions of New Winter Equipment for Motor Cars, commencing on page 66.

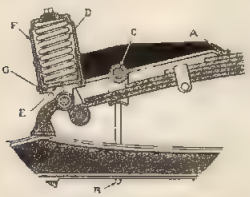
FORD SECTION



New Bosch Battery Ignition System for Fords

American Bosch Magneto Corp.
Springfield, Mass.

This new Bosch product, which has been developed to give better performance than the regular four-coil ignition, is shown in the accompanying illustration attached to the Ford engine. This system, which is made especially for Fords equipped with electric starting and lighting, produces a positive spark of great heat and penetrating power at all operating speeds. It is said to be unaffected by rain or snow, heat or cold. A special feature is that it is equipped with the Bosch Compensating Governor. This keeps the hot sparks timed so that the engine always operates under the best possible conditions, and enables the driver to forget about the spark lever, excepting when starting. Selling price, complete, ready to install, $26.



The Brownlee Shock Absorber

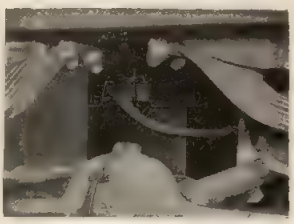
The Brownlee Mfg. Co.
100 W. South St., Indianapolis, Ind.

The Brownlee Shock Absorber, a sectional view of which is shown above, effectively cushions the downward shock and checks the rebound. When an obstacle is struck, the helical spring D is compressed and the spring support E rises within the housing F, allowing the wheel to pass over the obstacle more readily. The rebound is checked by the end of the lever A, which cannot rise without further compressing the spring D, the center of the lever A being tied to the axle by the stirrup B at the pivoting point C. The automatic lubricating system is a feature of this device. The spring support E, it is claimed, carries three to four months supply of oil, which is automatically and constantly fed through the ducts to all moving parts. The springs are chrome vanadium steel, the shackles are drop forged steel, and the bearings are all case hardened.

The Save-All Gasoline Saver

Save-All Company
3772 N. Clark St., Chicago, Ill.

The accompanying illustration shows the function of this device as a gasoline saver. It is an auxiliary attachment for the carburetor, consisting of an automatic air valve, hot-spot air heater and a special vaporizing gasket, attached between the carburetor and intake manifold. It is connected with the exhaust manifold to the hot spot air heater by a flexible tube. Its action is automatic and positive, and its installation does not necessitate the drilling of holes in the manifold or changes or adjustments to the carburetor.



The A. B. & B. Battery Box

The A. B. & B. Sheet Metal Works
Fond Du Lac Ave. at 33rd St., Milwaukee, Wis

The battery box illustrated herewith is well constructed to protect the battery from the detrimental effects of mud, rain and inclement weather generally. Its beaded or countersunk bottom is provided with a drain hole and is so arranged that no water can splash into the box from below but at the same time perfect drainage is assured. It is easy to attach to the battery cradle. The box is furnished with bolts spotwelded on each end, the same being in perfect alignment with the holes furnished in the battery cradle, whereby the battery is fastened. The cover is made a part of the floor board, being easily attached by four wood screws furnished with the box.

Correction

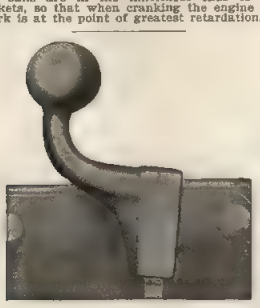
In the August issue of this magazine, page 220, the address of the Standard Motor Products Manufacturing Corp., of Chicago, Ill., was given as Chicago, Ill. The complete address is 908 W. Chicago, Ave., Chicago, Ill.

FORD SECTION

Aylward Monkey Gland; an Automatic Spark Advance and Timer

John J. Aylward
139 Charles St., New York City

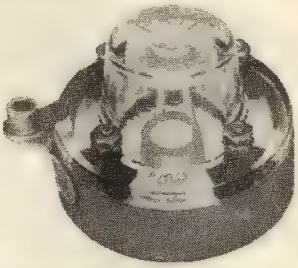
The "Monkey Gland" is a device for timing the spark automatically; that is, advancing or retarding it as the speed of the engine increases or decreases. When the engine is still, the balls are at the inner ends of the pockets, and when the engine is started the balls begin to come out. As the engine gains in speed the balls are thrown outward in the pockets by centrifugal force, and in their movement pull the disk around until the friction of the roller is overcome. When the engine has attained its maximum speed, the two disks rotate as one, and the contacts are advanced to the highest speed of the engine. When the speed of the engine is reduced the shaft slows down, and with it the disk, thus drawing the balls inward and retarding the spark. When the engine is stopped the balls are in the innermost ends of the pockets, so that when cranking the engine the spark is at the point of greatest retardation.



Loomis Patented Ball Grip Handles for Ford Car Doors

C. F. Loomis Mfg. Co.
428 Liberty St., Peoria, Ill.

Increased convenience in opening doors on the Ford is made possible by the Ball Grip Handle for Ford car doors illustrated above. It is easily attached by tapping it on the regular handle, a light tap of a hammer being all that is necessary. Retail price $1.25 per set for the Ford touring car.



Crystal Timer

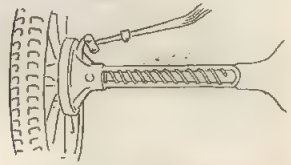
Crystal Timers, Inc., Corning, N. Y.

A slight deviation from conventional design is noted in the construction of this timer, namely, the insulation of genuine Pyrex glass, forming a transparent timer head. A wipe contact of metal on extra heavy hardened tool steel is used.

Spindle Bolt for Ford Front Axles

Little Giant Mfg. Co.
212 N. Elm St., Iola, Kans.

This bolt is so constructed that by tightening the nut all play is taken up when the bolt pivots in the axle instead of in the spindle. After the threads are worn out on the lower part of the axle the regular Ford bolt will turn and wear. With this bolt installed it is said that this trouble cannot occur and the improvement is permanent. It is made of low carbon steel and hardened. It retails for $1.00 each

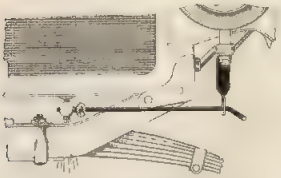


Rear Axle Grease Retainer

Handy Mfg. Co., Grand Rapids, Mich.

The Handy Grease Retainer is designed to prevent the grease from running out of the ends of the rear axle. It winds the grease back into the differential. Installation is easily effected.

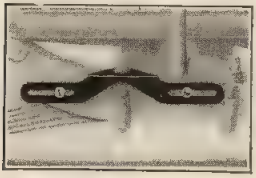
FORD SECTION



"Handy" Pet Cock Opener

Handy Mfg Co., Grand Rapids, Mich.

This is a simple device for opening the pet cock, to drain the cooling system, as shown in the accompanying illustration. It is easily installed and durably constructed.



Ford License Bracket

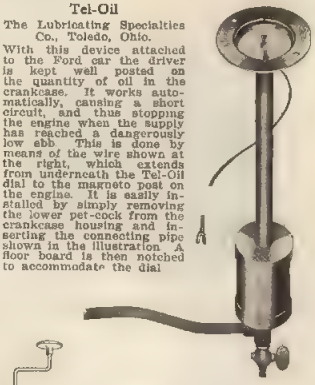
Imperial Metal Products Co.
Grand Rapids, Mich.

The License Bracket shown above is constructed of pressed steel, with a durable black Japan finish. It is quickly attached by removing one spring clip bolt nut. Comes in a box, packed 100 to a case. Prices: $3 per dozen, and $20 per hundred.

Tel-Oil

The Lubricating Specialties Co., Toledo, Ohio.

With this device attached to the Ford car the driver is kept well posted on the quantity of oil in the crankcase. It works automatically, causing a short circuit, and thus stopping the engine when the supply has reached a dangerously low ebb. This is done by means of the wire shown at the right, which extends from underneath the Tel-Oil dial to the magneto post on the engine. It is easily installed by simply removing the lower pet-cock from the crankcase housing and inserting the connecting pipe shown in the illustration. A floor board is then notched to accommodate the dial.



Universal Valve Grinder

Siegel & Andrews Co.
Amsterdam, N. Y.

To the mechanic, two features of this tool should readily appeal, one being that he can operate it in an erect position due to its length, and the other that it embeds itself firmly and squarely in the valve seat. Its design makes grinding of the valves of number four cylinder as easily accomplished as the first one.

VAPOR TUBE CONNECTED TO OVERFLOW PIPE
AIR ENTERS HERE
ALUMINUM SUB-MANIFOLD
AUXILIARY HOT MOIST AIR VALVE
CONTROL CABLE TO STEERING COLUMN

Napco Automatic Moisture System

The National Automotive Products Co.

1907 Euclid Ave., Cleveland, Ohio.

The purpose of this system is to effect a saving of gasoline and at the same time produce a highly volatile gas in the combustion chamber. The view herewith plainly illustrates its construction and mounting. Water vapor is taken from the overflow pipe by a small flexible, asbestos-packed, metal tubing, which is connected to the funnel-shaped aluminum sub-manifold. Air is drawn in at the front end of the sub-manifold, this air and vapor passing over the entire length of the exhaust manifold, thoroughly heating it. The small pocket on the side of the sub-manifold is a water trap, making it impossible for water to get into the carburetor. Price, $15.

Several descriptions of new winter equipment for Ford cars will be found grouped with descriptions of New Winter Equipment for Motor Cars

PLANES

STANLEY BLOCK PLANES

ADJUSTABLE

Fig. 40995A

No. 65

Similar to No. 60, has knuckle joint. Practically indestructible, lever or cap being entirely of steel. Length, 7 inches, cutter 1⅝ inches; weight, 1⅝ pounds; nickel trimmings

Price ..... each 3.40

Fig. 40995B

No. 103

Furnished with lever attachment, and provided with adjustable cutters. Length, 6½ inches; cutter, 1⅝ inches; weight, ⅞ pound. Japanned finish.

Price ..... each 1.30

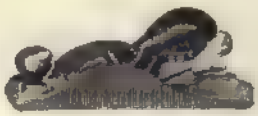


Fig. 40995C

No. 120

Similar to No. 103 with lever adjustment. Length, 7 inches; cutter, 1⅝ inches; weight, 1⅝ pounds. Japanned finish

Price ..... each 1.80

Fig. 40995D

No. 131

Combination adjustable block and bull nose plane, rosewood knob. Length, 8 inches; cutter, 1⅝ inches; weight, 1½ pounds. Japanned finish.

Price ..... each 3.00

Fig. 40995E

No. 203

With screw adjustment. Has Stanley "Handy" features

Length, 6½ inches; cutter, 1⅝ inches; weight, 1⅛ pounds. Japanned finish.

Price ..... each 1.60

STANLEY BLOCK PLANES

ADJUSTABLE

No. 220

Has screw adjustment. Cutters set in adjustable

Fig. 40995F

Has Stanley "Handy" features. Length, 7 inches; cutter, 1⅝ inches; weight, 1½ pounds. Japanned trimming.

Price ..... each 1.85

NON-ADJUSTABLE

No. 100

Fig. 40995G

Has an iron handle, insuring a firm grip.

Length, 3½ inches; cutter, 1 inch; weight ⅜ pounds

Price ..... each .60

No. 101

Fig. 40995H

A handy little plane for household use and light work.

Length, 3½ inches; cutter, 1 inch; weight, ¼ pound

Price ..... each .50

Fig. 40995J

No. 102

Bottom is ground and the sides are japanned. A light serviceable plane Length, 5½ inches, cutter, 1⅝ inches.

Price ..... each .90

No. 110

Both bottoms and sides are ground and in place

Fig. 40995K

Length, 7 inches; cutter, 1⅝ inches; weight, 1⅝ pounds

Price ..... each 1.25

For Nearly a Century the Store of Service.

STANLEY BED ROCK ADJUSTABLE PLANES

SMOOTH BOTTOMS

SMOOTH

Fig. 6607A

Owing to their solidity and variety of adjustments these planes surpass all others.

JACK

Fig. 6607B

For fine work on all woods. These planes have rosewood handles and knobs.

FORE

Fig. 6607C

The cutters are made of thin steel of high quality and are adjustable

JOINTER

Fig. 6607D

Endwise and sidewise. For planes with corrugated bottoms, see next column.

No.	Style	Length Inches	Cutter Inches	Wt. Lbs.	Price Each
602	Smooth	7	1⅝	2¼	5 00
603	"	8	1¾	3¼	5 45
604	"	9	2	3¾	5 90
604½	"	10	2⅜	4¼	6.75
605	Jack	14	2	4¾	6 75
605½	"	15	2¼	6½	7 30
606	Fore	18	2⅜	7⅞	8.50
607	Jointer	22	2⅜	8¼	9.80
608	"	24	2⅜	9¾	11.60

CORRUGATED BOTTOMS

SMOOTH

Fig. 6607E

Particular attention is called to the shape of the sides

JACK

Fig. 6607F

This new and distinctive feature adds greatly to the strength of the plane

FORE

Fig. 6607G

As well as affording large bearing surfaces when the plane is used on its side

JOINTER

Fig. 6607H

The frog may be adjusted either forward or backward without removing the lever and cutter.

No.	Style	Length Inches	Cutter Inches	Wt. Lbs.	Price Each
603C	Smooth	8	1¾	3¼	5.85
604C	"	9	2	3¾	6.30
604½C	"	10	2⅜	4¼	7 25
605C	Jack	14	2	4¾	7.25
605½C	"	15	2¼	6½	7.90
606C	Fore	18	2⅜	7⅞	9.15
607C	Jointer	22	2⅜	8¼	10.55
608C	"	24	2⅜	9¾	12.45

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STANLEY PLANES

PLOW, BEADING AND MATCHING PLANES

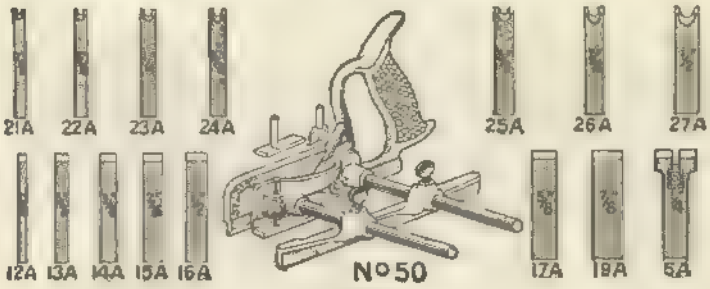

Fig. 32797A

This is a very handy tool for light work. It consists of main stock carrying a spur and a depth gauge and forming a support for one side of the cutter, a sliding section, carrying a spur and forming a support for the other side of the cutter and a fence with a 5-inch adjustment. The handle is metal, being part of the main stock.

The cutters comprise 7 plow and 1 dado bits, 1/4, 3/16, 1/8, 7/16, 1/2, 5/8 and 7/8-inch, beading tools, 1/8, 3/16, 1/4, 5/16, 3/8, 7/16 and 1/2 inch and a 1/4-inch tonguing tool.

Number	Length Inches	Number Cutters	Weight Pounds	Price Each
50	9¼	15	3½	10.25

PLOW, DADO, FILLESTER AND MATCHING PLANES

Fig. 32797B

Skew cutters are the feature of this plane. Consists of main stock carrying spur, depth gauge and a slitting cutter, a sliding section carrying a spur and forming an extra sole for the plane and a fence, rosewood face, which can be set for either plow or fillester work. It has rosewood handle and knob.

The cutters comprise 8 plow and 1 dado bits, 3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 7/8 and 1 inch, 1½-inch fillester cutter and ¼ inch tonguing tool and a slitting cutter.

Number	Length Inches	Number Cutter	Weight Pounds	Price Each
46	10½	12	5¾	11.75

STANLEY PLANES

No. 444 DOVETAIL TONGUE AND GROOVE PLANES

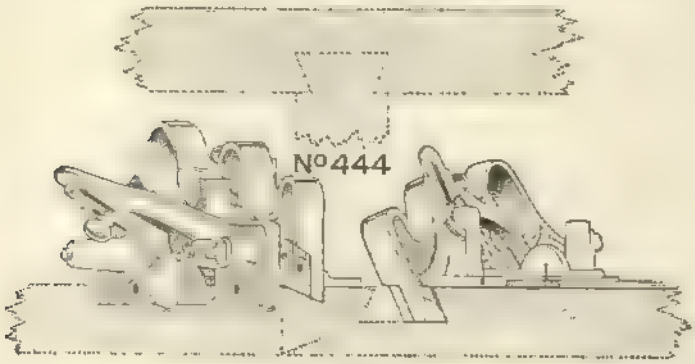

Fig 32796A

This plane will cut any size grooves and tongues to fit with the sides at flare of 20 degrees, where the width of the tool is more than ¼ inch and the depth of groove not more than ⅜-inch.

Tongue and grooves are cut separately and can be made with parallel or tapering sides. All parts are carefully machined and are interchangeable. Entire tool is heavily nickel-plated.

No.	Length Inches	Weight Pounds	Price Each
444	9	6	14.70

No. 171 DOOR TRIM PLANES

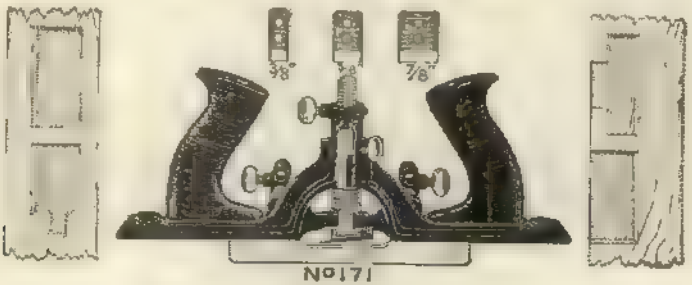

Fig 32796B

This plane will make mortises for butts, face plates, etc., up to a depth of ⅜-inch and a width of 3 inches. Its original feature is the method of mounting the cutter, which can be instantly set to work from either end of the plane or across it. In addition, the cutter is positioned by a spring which prevents taking a heavier chip than can be easily cleared. A fence regulates the position of the cut and insures the sides of cut being parallel. Depth of cut is governed by a positive stop. The two handles are made of rosewood and tool also has 3 forged steel cutters. Japanned finish.

No.	Length Inches	Weight Pounds	Price Each
171	9	3	7.05

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STANLEY PLANES

FIFTY-FIVE PLANE

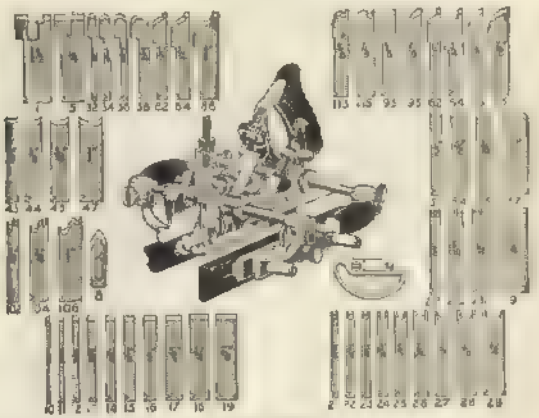

Fig. 15103A

This tool, in addition to being a beading and center beading plane, a plow, dado, rabbet, fillet ster and match plane, a sash plane, and slitting plane, is also a superior molding plane, and will accommodate cutters of almost any shape and size. In fact it is a planing mill within itself.

The handle and fences are made of selected rosewood. The plane, together with its 53 cutters, is packed in a substantial box.

Price, Nickel-plated, with 53 Cutters, Complete . . . . each **30.00**

FORTY-FIVE PLANE

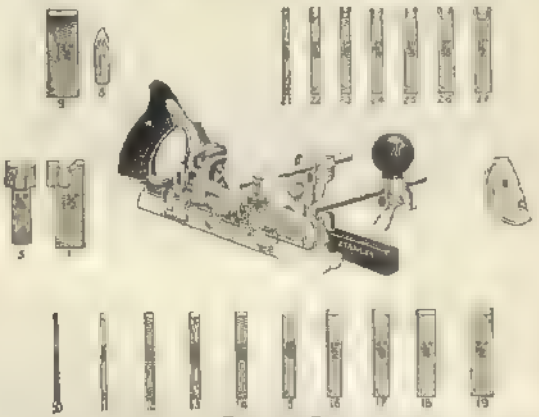

Fig. 15103B

Consists of seven tools in one in convenient and practical form. (1) Beading and center beading plane. (2) Plow. (3) Dado. (4) Rabbet and fillet ster. (5) Match plane. (6) Sash plane. (7) Slitting plane.

The handle knob and fence are made of selected rosewood. The plane together with its 22 cutters is packed in a substantial box.

Price, Nickel-plated, with 22 Cutters, Complete . . . . each **15.00**

STANLEY PLANES

DUPLEX FILLISTER AND RABBETT PLANES, No. 78

Fig. 15106A

Has two seats for the cutter, one for regular and the other for bull-nose work. Has adjustable fence.

Length	inches	9½
Size Cutter	"	1½
Weight	pounds	3
Price	each	3.95

HANDLED IRON RABBET PLANES Nos. 190 TO 192

Fig. 15106B

These planes will lie flat on either side and can be used with right or left hand while planing into corners or up against perpendicular surfaces, with spur and detachable depth gauge.

No.	Length Inches	Cutter Inches	Weight Pounds	Price Each
190	8	1⅝	2¼	3.50
191	8	1¼	2¼	3.30
192	8	1	2	3.10

SKEW CUTTER, FILLISTER AND RABBETT PLANES, No. 289

Fig. 15106C

Has extra wide skew cutter and adjustable spur on each side.

Length	inches	8½
Size Cutter	"	1¾
Weight	pounds	3¾
Price	each	4.55

CABINET MAKERS' RABBET PLANES

No. 90

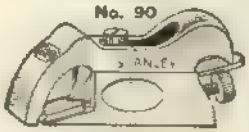

Fig. 15106D

For use where extreme accuracy is required. Will lie perfectly flat on either side. Fitted with adjustable throats and cutters, with "Hand-Y" feature. No. 90, bull nose pattern; all Nos. nickel plated.

Nos 92 TO 94

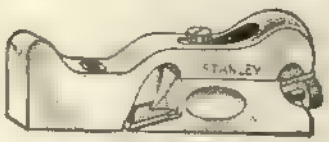

Fig. 15106E

No.	Length Inches	Cutter Inches	Weight Pounds	Price Each
90	4	1	1	4.75
92	5½	¾	1½	4.75
93	6½	1	1¾	5.75
94	7½	1¼	2	6.60

CARRIAGE MAKERS' RABBET PLANES

No. 10

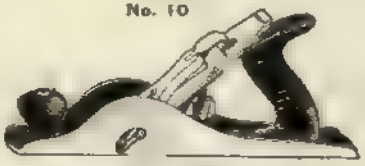

Fig. 15106F

Especially adapted for the heavy framing required in mining work and for carriage or wagon building.

No. 10½

Fig. 15106G

No.	Length Inches	Cutter Inches	Weight Pounds	Price Each
10	13	2⅛	4¼	7.70
10½	9	2⅛	3	6.35

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For Nearly a Century the Store of Service.

B. & S. WRENCHES
ADJUSTABLE

MODEL A

Fig 18137A

Bars and handles made from selected open hearth steel drop-forgings, hardened all over

Length Closed Inches	Opens Inches	Thickness of Jaw Inches	Weight Ounces	Price, Each Black	Price, Each Nickeled
4½	1	7/16	7¼	1.50	1.65

PARTS

Handle	each	.80	.90
Bar	"	.70	.80
Nut	"	.20	.20

MODEL B

Fig 18137B

Bars and handles made from selected open hearth steel drop-forgings, hardened all over

Length Closed Inches	Opens Inches	Thickness of Jaw Inches	Weight Ounces	Price, Each Black	Price, Each Nickeled
5	1	7/16	7½	1.50	1.65

PARTS

Handle	each	.80	.90
Bar	"	.70	.80
Nut	"	.20	.20

MODEL C

Fig 18137C

Bars and handles made from selected open hearth steel drop-forgings, hardened all over

Length Closed Inches	Opens Inches	Thickness of Jaw Inches	Weight Ounces	Price, Each Black	Price, Each Nickeled
5	1	7/16	7	1.50	1.65

PARTS

Handle	each	.80	.90
Bar	"	.70	.80
Nut	"	.20	.20

MODEL D

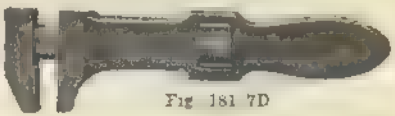

Fig 18137D

Bars and handles made from selected open hearth steel drop-forgings, hardened all over

Length Closed Inches	Opens Inches	Thickness of Jaw Inches	Weight Ounces	Price, Each Black	Price, Each Nickeled
6	1¼	½	11¼	1.65	1.85

PARTS

Handle	each	.80	1.00
Bar	"	.70	.80
Nut	"	.20	.20

MODEL E

Fig 18137E

Bars and handles made from selected open hearth steel drop-forgings, hardened all over

Length Closed Inches	Opens Inches	Thickness of Jaw Inches	Weight Ounces	Price, Each Black	Price, Each Nickeled
7	1¾	5/8	19	2.00	2.25

PARTS

Handle	each	1.00	1.30
Bar	"	.80	1.00
Nut		.20	.20

MODEL 97—POCKET

Fig 18137F

Length Closed Inches	Opens Inches	Thickness of Jaw Inches	Weight Ounces	Price, Each Black	Price, Each Nickeled
4	1½	¼	6	1.00	1.25

PARTS

Handle	each	.54	.70
Bar	"	.36	.44
Nut	"	.20	.20

B. & S. WRENCHES

SPANNER, MODEL L

Fig. 28378A

MODEL I ADJUSTABLE

Fig. 28378B

MODEL L SPANNER WRENCHES

No.	Takes Cap Inches	Diam of Pin Inches	Length of Pin Inches	Length Weight Inches	Weight Ounces	Price Each
0	¾ to 2	⅜	⅛	7	7	70
1	2 " 4	½	¼	9	9	75
2	2 " 4	⅝	¼	9	9	85
3	2 " 4¾	¼ by ⅝	¼	10½	10½	1 25

MODEL I ADJUSTABLE WRENCHES

No.	Size Inches	Cap. Inches	Weight Ounces	Price Each
1	4	¾	10	1 40
2	8	1½	19	1 70
3	10	1⅝	31	2 50

MODEL G ADJUSTABLE AUTOMOBILE WRENCHES

Fig. 28378C

Drop-forged from selected open hearth steel throughout, nickel plated

No	Size Inches	Long Length Inches	Capacity Inches	Thickness of Jaw Inches	Depth of Jaw Inches	Weight Ounces	Price Each Nickel finished	Price Each Bright Finished
1	6	6½	1⅛	⅝	1	10½	1.15	1.30
2	8	8	1⅞	⅞	1¼	16½	1.50	1.70
3	10	10¾	2⅞	⅞	1½	28	1.90	2.25
4	12	12¼	2¾	⅞	1½	32	2.40	2.90
5	14	14¾	2⅝	⅝	1¾	64	3.00	3.60
6	18	18¼	3⅝	¾	2¼	112	3.75	4.50

PARTS

No.	Size Inches	Handle S. F.	Handle F. F.	Sliding Jaw S. F.	Sliding Jaw F. F.	Knurl S. F.	Knurl F. F.	Screw S. F.	Screw F. F.
1	6	.60	.70	.52	.56	.06	.06	.02	.02
2	8	.76	.84	.66	.74	.06	.06	.02	.02
3	10	84	1 06	.74	86	08	08	02	.02
4	2	1 60	1 90	90	1.10	08	08	.02	.02
5	14	2.10	2.40	1.80	2.16	.14	.14	.04	.04
6	18	2.60	3.20	2.20	2.60	.24	.24	.04	.04

Write us Your Requirements for Goods Not Listed.

B. & S. DROP FORGED WRENCHES

No. 7 DISPLAY SALES BOARDS

FOR HEXAGON NUTS AND CAP SCREWS

Fig. 25298A

No.	For U. S. Standard Bolt Size Bolt, In.	Screw Diam. Screw Inch	Shoe Distance Broached Open	Screwdriver Length Inches	Size Head Inches	Price Finished Each
0[illegible]A	1/8	1/8	1/4	4	1/2	.50
0[illegible]A		3/16	1/4	4 1/2	9/16	.55
0[illegible]B	3/16		1/4	4 1/2	9/16	.61
0[illegible]		1/4	1/4	4 1/2	9/16	.61
0[illegible]A	1/4	5/16	1/4	4 3/4	9/16	.65
0[illegible]A		3/8	1/4	5 1/4	9/16	.72
0[illegible]B	5/16		1/4	5 1/4	9/16	.72
1[illegible]A		7/16	1/4	5 1/2	1	.79
0[illegible]B	3/8		1/4	5 3/4	1 1/16	.89
0[illegible]		1/2	1/4	5 3/4	1 1/8	.89
2[illegible]A	7/16		1/4	5 3/4	1 1/4	.97
1[illegible]B		9/16	1/4	6	1 3/8	.97
0[illegible]	1/2	9/16	1/4	6	1 3/8	1.10

Brace Socket Wrench Handle 60

Price, Board Complete with 39 Full Finished Wrenches 3 of Each Size, and 6 Handles..... 33 51

No. 8 DISPLAY SALES BOARDS

Fig. 25298B

ENGINEERS' WRENCHES
15° ANGLE, DOUBLE HEAD

No.	U. S. S. bolt Size	Hex. Head Cap Screw	Size Screw F. A. E. Head and Nut	Price Finished Each
1107	1/8 – 1/4			.32
1109		1/4	1/4	.38
1114		5/16	5/16	.38
1[illegible]2	1/4	5/16	5/16	.38
1117		3/8	3/8	.46
1118	5/16	3/8		.46
21		7/16	7/16	.56
1123X				56
1128	7/16 – 1/2		1/2	68
1136	9/16 – 5/8		5/8	1 08

TEXTILE WRENCHES
22½° ANGLE, DOUBLE HEAD

1557	1/4 – 5/16	1/4 – 5/16	.38
1559	1/4 – 5/16	5/16 –	.46
1562	3/8 – 7/16	3/8 – 7/16	.46
1566	3/8 – 7/16		.60
1568		1/2 – 9/16 1/2 –	.60

LIGHT SERVICE S WRENCHES

2000		1/4 – 3/4	.38
2007	3/8 – 5/8	5/8 – 3/8	.47
2014			58
2025	1/2 – 3/4		72
2035	5/8 – 3/4	9/16 – 11/16	.80

Price, Complete with Board and 4 of Each Size Wrench Fin. 43 24

We write us Your Requirements for Goods Not Listed.

For Nearly a Century the Standard of Service.

B. & S. WRENCHES
T HANDLE SOCKET

Fig. 16675A

With or without pin handle for square nuts, cap screws and set screws.

UNFINISHED—are broached only.

SEMI-FINISHED—are broached, edges ground and casehardened all over.

FINISHED—are broached, polished all over, nickel-plated and lacquered.

IN STOCK with openings of U. S. standard dimensions. Hexagon end of shank is designed for use in combination with another wrench or with pin handle.

These wrenches can be furnished to order in any length of shank required. Such wrenches will be special and will be furnished at special prices. Send for quotation stating length and number of wrenches required. Unless otherwise specified, wrenches with pin handles will be sent.

Wrench No.	Square Openings: For Hex. Nut Across Flats	For Square Nut Across Flats	For Set Screw Side Screw	For Set Screw Hex. Socket Head Cap Screw	Extreme Length	Datum Head	Diameter of Hole in Head for Pin	Length of Pin Handle	Prices Each: Without Pin Handle or Hole for Same	Assembled Complete	With Pin Handle or Hole for Same	Assembled Complete
720 J					3 5/8	1 1/4	1/8	3	.18	.26	.27	.35	.36	.44
721 J					4	1 1/2	3/16	4	.20	.30	.30	.40	.40	.50
721 K					4	1 1/2	3/16	4	.20	.30	.30	.40	.40	.50
722 J					4 1/2	5/8	1/4	4 1/2	.22	.33	.33	.44	.44	.55
723 J					5 1/4	3/4	5/16	5 1/4	.24	.37	.36	.49	.48	.61
724 J					5 3/4	7/8	3/8	5 3/4	.29	.43	.44	.58	.58	.72
725 J					6 1/8	1	3/8	6 1/8	.32	.47	.48	.63	.64	.79
725 K					6 1/8	1 1/8	3/8	6 1/8	.36	.53	.54	.71	.72	.89
726 J					7	1 1/4	1/2	7	.36	.53	.54	.71	.72	.89
726 K					7	1 1/4	1/2	7	.40	.57	.60	.77	.80	.97
727 L					7	1 1/4	1/2	7	.40	.57	.60	.77	.80	.97
727 J					7 7/8	1 1/2	5/8	7 7/8	.46	.64	.69	.87	.92	1 10
727 K					7 7/8	1 1/2	5/8	7 7/8	.52	.72	.78	.98	1.04	1 24
728 J					8 5/8	1 5/8	3/4	8 5/8	.60	.80	.90	1.10	1.20	1.40
729 J					9 1/8	1 7/8	3/4	9 1/8	.70	.95	1.05	1.30	1.40	1.65
729 K			1	1 1/16	9 1/8	1 7/8	3/4	9 1/8	.80	1.10	1.20	1.50	1.60	1 90
729 L				1 1/16	9 1/8	1 7/8	3/4	9 1/8	.90	1.25	1.35	1.70	1.80	2 15
730 J			1 1/16	1 5/16	10	2 1/8	7/8	10	.90	1 25	1.35	1.70	1 80	2 15
730 K		1	1 1/4	1 5/16	10	2 1/8	7/8	10	1.15	1.55	1.72	2.12	2.30	2.70
731 J		1 1/16		1 5/16	10 7/8	2 1/2	1	10 7/8	1.30	1.75	1.95	2.40	2.60	3 05
731 K				1 5/16	10 7/8	2 1/2	1	10 7/8	1.30	1.75	1.95	2.40	2.60	3 05
732 J		1 1/16		1 5/8	11 3/8	2 3/4	1 1/16	11 3/8	1.30	1.75	1.95	2.40	2.60	3 05
732 K	1	1 3/16		1 5/8	11 3/8	2 3/4	1 1/16	11 3/8	1.60	2.05	2.40	2.85	3.20	3.65
733 J	1			1 27/32	12 1/2	3 5/8	1 3/16	12 1/2	2.10	2.60	3.15	3.65	4.20	4 70
733 K	1			2 5/32	12 1/2	3 5/8	1 3/16	12 1/2	2.80	3.45	4.20	4.85	5.60	6 25

B. & S. DROP-FORGED WRENCHES

No. 1

Fig. 25297A

No. 1 DISPLAY SALES BOARDS

Contains 240 full finished wrenches, 6 each of the following numbers, arranged for the hardware dealer

ENGINEERS' WRENCHES

15° ANGLE, DOUBLE HEAD

Nos. 1107, 1112, 1118, 1128, 1136, 1140; bolt sizes, ⅜ to ⅝ inch. Nos. 1104, 1109, 1111, 1116, 1120, 1125, 1133, 1142; hexagon head cap screw sizes, ⅜ to 1 inch. Nos. 1109, 1111, 1116, 1120, 1133, 1140; S. A. E. head and nut screw sizes, ¼ to ⅛ inch

CHECK NUT OR THIN WRENCHES

15° ANGLE, DOUBLE HEAD

Nos. 1351, 1354, 1358, 1362, 1366, bolt sizes, ⅜ to ⅝ inch. No. 1366, S. A. E. head and nut screw sizes ⅛ to 1 inch.

S WRENCHES

22½° ANGLE, DOUBLE HEAD

No. 1401; bolt sizes, ¼ to ⅜ inch; Nos. 1402, 1404, 1409, 1411, 1413, 1417, 1421, 1433, 1442, hexagon head cap screw sizes, ⅛ to 1 inch. Nos. 1409, 1411, 1413, 1418, 1433; S. A. E. head and nut screw sizes, ¼ to ⅞ inch.

No. 2

Fig. 25297B

TEXTILE WRENCHES

22½° ANGLE, DOUBLE HEAD

Nos. 1555, 1564, 1571, 1578, 1581; bolt sizes, ⅜ to ⅝ inch. No. 1581, S. A. E. head and nut screw sizes ¾ to 1 inch

LIGHT SERVICE S WRENCHES

Nos. 2000, 2007, 2017, 2025, 2033, hexagon head cap screw sizes, [illegible] inch. Nos. 2007, 2033; S. A. E. head and nut screw sizes [illegible] to ⅝ inch

Price, Complete ..... per set 163 50

No. 2 DISPLAY SALES BOARDS

Contains 132 full finished wrenches, 6 each of the following numbers, arranged for the hardware dealer

ENGINEERS' WRENCHES

15° ANGLE, DOUBLE HEAD

Nos. 1107, 1112, 1118, 1128, 1136, bolt sizes ⅜ to ⅝ inch. Nos. 1104, 1109, 1111, 1116, 1120, 1133, 1140, hexagon head cap screw sizes [illegible] Nos. 1109, 1111, 1116, 1120, 1133, 1140, S. A. E. head and nut screw sizes, ¼ to ⅞ inch

TEXTILE WRENCHES

22½° ANGLE, DOUBLE HEAD

Nos. 1555, 1564, 1571, 1578, 1581; bolt sizes, ⅜ to ⅝ inch. No. 1581; S. A. E. head and nut screw sizes, ¾ to 1 inch.

LIGHT SERVICE S WRENCHES

Nos. 2000, 2007, 2017, 2025, 2033, hexagon head cap screw sizes [illegible] inch. Nos. 2007, 2033, S. A. E. head and nut screw sizes, ⅜ to ⅝ inch.

Price, Complete ..... per set 80.04

B. & S. WRENCH SETS

S. A. E. Standard Set
Nos. 8 and 8½

Fig. 16778A

Light Service Set
Nos. 3 and 4

Fig. 16778B

SET No. 8—S. A. E. STANDARD

No.	S. A. E. Standard Bolt Size Screw Head and Nut Inches	Milled Openings Inches	Length Inches	Thickness of Heads Inches	Price Semi-finished	Price Finished
1105			11½		.21	.32
1118X			6		.31	.46
1126			8		.45	.68
1132X			9		.55	.85
1140X			11½		.96	1.40
Price, in Pasteboard Box				per set	2.48	3.71
" Bag				each		.45

SET No. 8½—S. A. E. STANDARD

No.	Size Screw S. A. E. Head and Nut Inches	Milled Openings Inches	Length Inches	Price Semi-finished	Price Finished
1104			4	21	.32
1111			5	.25	.38
1119X			6¾	.37	.56
1125			8	.45	.68
1136X			10	.68	1.08
Price, in Pasteboard Box			per set	1.96	3.02
" Bag			each		.45

SET No. 3—LIGHT SERVICE

No.	Size Screw S. A. E. Head and Nut Inches	Milled Openings Inches	Length Inches	Thickness of Heads Inches	Price Semi-finished	Price Finished
2001			6		.27	38
2009			7		34	47
2018			8		43	.58
2026			9		55	.72
2035			10⅜		.70	90
Price, in Pasteboard Box				per set	2 29	3 05
" Bag				each		45

SET No. 4—LIGHT SERVICE

No.	Size Screw S. A. E. Head and Nut Inches	Milled Openings Inches	Length Inches	Thickness of Heads Inches	Price Semi-finished	Price Finished
2000			6¼		27	.38
2007			7¼		34	.47
2017			8¼		.43	.58
2025			9¼		55	72
2033			10¼		70	.90
Price, in Pasteboard Box				per set	2.29	3.05
" Bag				each		.45

When ordering, specify model, number and finish

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B. & S. WRENCH SETS

Nos. 18 and 19

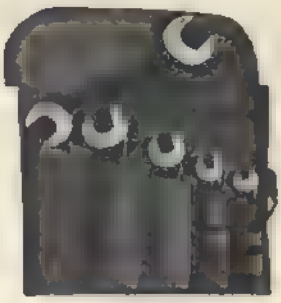

Fig. 25727A

No. 20

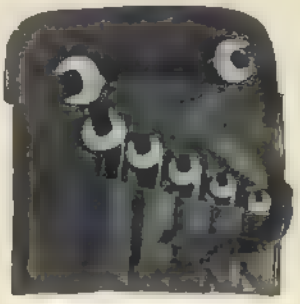

Fig. 25727B

No. 18 AUTO SET, TEXTILE TYPE FOR S. A. E. AND U. S. STANDARD CAP SCREWS

No.	Size of U. S. Bolt Cap Screws Inches	Size of S. A. E. Bolt Heads and Nuts Inches	Model Openings Inches	Length Inches	Thickness of Head Inches	Price Set in Pasteboard Box	Price Each
1557	1/4	7/16	7/16	4 3/4	1/4	25	38
1562	5/16	1/2	1/2	5 1/16	5/16	31	46
1569	3/8	9/16	9/16	5 3/8	3/8	.40	60
1575X	1/2	3/4	3/4	6 1/2	1/2	.72	1 05
1580	1	1 1/2	1 1/4	11	1	.96	1 40
Price, in Pasteboard Boxes					per set	2.64	3 89
" Bags					each	.45	

No. 19 TEXTILE WRENCH SET WITH OPENINGS FOR U. S. STANDARD NUTS

BOLT SIZES FROM 1/4 TO 1/2

No.	U. S. Bolt Sizes Inches	Model Openings Inches	Length Inches	Thickness of Head Inches	Price Set in Pasteboard Box	Price Each
1555	1/4	7/16	4 3/4	1/4	.25	38
1561	5/16	1/2	5 1/16	5/16	.31	46
1571	3/8	9/16	5 3/8	3/8	.53	.78
1578	1/2	3/4	6 1/2	1/2	.72	1 05
1585	1	1 1/4	11	1	.96	1 40
Price, in Pasteboard Boxes				per set	2 77	4 07
" Bags				each		45

No. 20 TEXTILE AND LOOM REPAIR SETS FOR U. S. STANDARD NUTS

No.	U. S. Bolt Sizes Inches	Model Openings Inches	Length Inches	Thickness of Head Inches	Price Set in Pasteboard	Price Each
1555	1/4	7/16	4 3/4	1/4	.25	.38
1561	5/16	1/2	5 1/16	5/16	.31	46
1571	3/8	9/16	5 3/8	3/8	.40	60
1578	1/2	3/4	6 1/2	1/2	.53	.78
1585	1	1 1/4	11	1	.72	1.05
Price, in Pasteboard Boxes				per set	3.17	4.67
" Bags				each		.60

B. & S. BIT BRACE SOCKET WRENCHES

FOR HEXAGON NUTS AND CAP SCREWS

Fig. 25303A

FOR SQUARE NUTS AND CAP SCREWS

Fig. 25303B

These socket wrenches are drop-forged of open-hearth steel and have standard bit stock shank for use with bit brace or handle designed special for the purpose. These wrenches are furnished in both hex and square openings as listed.

FOR HEXAGON NUTS AND CAP SCREWS

No.	Hexagon Openings, Inches — For U. S. Standard Nuts Size of Bolt	For Cap Screw Diam. of Screw	Short Diam. Broached Opening	Extreme Length Inches	Diam. Head Inches	Price, Each — Screw Finished	Price, Each — Fully Polished
921A	5/16	1/4	21/64	4	7/32	40	50
922A	3/8	5/16	25/64	4 1/2	9/64	44	.55
922B	3/8	5/16	27/64	4 1/2	43/64	49	61
922C	3/8	1/4	27/64	4 1/2	43/64	.49	61
923A	7/16	5/16	31/64	4 3/4	25/32	.52	.65
924A	1/2	5/16	31/64	5 1/4	57/64	.58	.72
924B	1/2	3/8	33/64	5 1/4	57/64	.58	.72
925A	9/16	7/16	33/64	5 1/2	1	.63	.79
925B	9/16	1/2	33/64	5 3/4	1 1/8	.71	89
925C	9/16	1/2	33/64	5 3/4	1 1/8	.71	.89
926A	5/8	7/16	33/64	5 3/4	1 1/8	.77	.97
926B	5/8	9/16	33/64	6	1 1/32	.77	97
926C	5/8	5/8	33/64	6	1 1/32	.87	1.10

FOR SQUARE NUTS AND CAP SCREWS

No.	Square Openings, Inches — For U. S. Standard Nuts Size of Bolt	For Cap Screw Diam. of Screw	Set Screw	Short Diam. of Broached Opening	Extreme Length Inches	Diam. Head Inches	Price, Each — Screw Finished	Price, Each — Fully Polished
921J			5/16	11/64	4	11/64	.40	50
921K			1/4	11/64	4	11/64	.40	.50
922J			5/16	21/64	4 1/2	21/64	.44	.55
923J		1/4	5/16	21/64	4 3/4	21/64	.49	.61
924J		5/16	3/8	21/64	5 1/4	21/64	.58	.72
925J	1/4	3/8		21/64	5 1/2	1	.63	.79
925K		7/16	1/2	21/64	5 1/2	1	.71	.89
926J		1/2	5/8	21/64	5 3/4	1 1/8	.77	.97
926K	3/8	9/16		21/64	6	1 1/32	.77	.97

Write us Your Requirements for Goods Not Listed.

STARRETT'S TOOLS

No. 232, MICROMETER CALIPERS

Fig 19070A

For measurement by 1000ths up to ½ inch. Has locknut and ratched stop. Short anvil, for use in places where the ordinary anvil is too long to be inserted.
Price.....each 8.50

No. 215, MICROMETER CALIPERS

Fig. 19070B

For measurement by 1000ths up to ½ inch. Has locknut and ratchet stop.
Price.....each 8.50

No. 216, MICROMETER CALIPERS

Fig. 19070C

For measurement by 1000ths up to ½ inch. Has ratchet stop, but no locknut.
Price .....each 7.50

No. 576, MICROMETER CALIPERS

Fig. 19070D

For measuring tubing, by 1000ths up to ½ inch, with decimal equivalents stamped on frame. Ratchet stop.
Price .....each 8.50
For micrometers measuring by 10000ths add 1.75 to above prices. For leather cases, add 1.00.

No. 204, MICROMETER CALIPERS

Fig. 19070E

For measurement by 1000ths up to 1 inch. Has ratchet stop and locknut. Quick adjusting. This feature will be appreciated by mechanics.
Price .....each 15.00

No. 230, MICROMETER CALIPERS

Fig. 19070F

For measurement by 1000ths up to 1 inch. Has locknut and ratchet stop.
Price.....each 10.00

No. 3, MICROMETER CALIPERS

Fig. 19070G

For measurements by 1000th up to 1 inch. Has locknut and ratchet stop.
Price.....each 10.00

No. 203, MICROMETER CALIPERS

Fig. 19070H

For measurements by 1000ths up to 1 inch. Has neither locknut nor ratchet stop
Price .....each 8.50
For micrometers measuring by 10000ths add 1.75 to above prices. For leather cases, add 1.00.

STARRETT'S TOOLS

MICROMETERS
1-INCH, No. 238

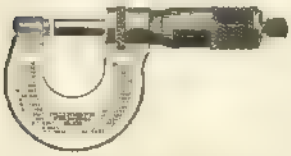

Fig. 5645A

For measurements by 1000ths up to 1 inch. Has ratchet stop and locknut. Made with frame and other parts much heavier than the regular pattern.

Price.....each 12.00
" case only .. .. . " 1.25

1-INCH, No. 207

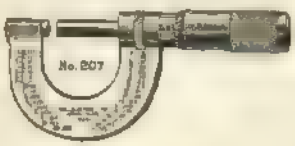

Fig. 5646B

For measurements by 10000ths up to 1 inch. Has locknut but no ratchet stop.

Price.....each 11.25

1-INCH, No. 202

Fig. 5646C

For measurements by 1000ths up to 1 inch. Has ratchet stop but no locknut.

Price..... ... .each 9.00

2-INCH, No. 2

Fig. 5646D

For measurements by 1000ths, from 1 to 2 inches. Has locknut, ratchet stop and 1 inch test gauge.

Price.....each 11.00

For micrometers measuring by 10000ths add 1.75 to above prices. For cases add 1.00, 2 inch size, 1.25.

MICROMETERS
2-INCH, No. 2A

Fig. 5646E

For measurements by 1000ths from 1 to 2 inches. Has locknut, ratchet stop and 1 inch test gauge. Fitted with No. 212 attachment with which tool can be converted into 1 inch.

Price.....each 14.00

2-INCH, No. 217

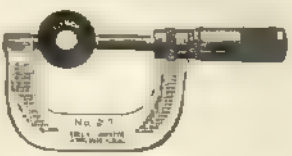

Fig. 5646F

For measurements by 1000ths from 1 to 2 inches. Has locknut and 1 inch test gauge but no ratchet stop.

Price.....each 10.50

MICROMETERS WITH FINGER RING, No. 220

Fig. 5646G

For measurements by 1000ths up to 1 inch. With locknut and ratchet stop.

Price..... . . . .. each 11.25

No. 221

For measurements by 1000ths up to ½ inch. With locknut and ratchet stop.

Price. .... each 9.75

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STARRETT'S TOOLS

No. 209, 1-INCH MICROMETER CALIPERS

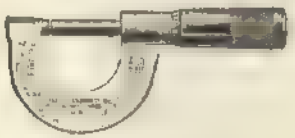


Fig. 32414A

For measurement by ten-thousandths up to 1 inch. Has neither locknut nor ratchet stop.

Price . . . . . each 10.25
" with Leather Case . . . . . " 11.25

Sent without case unless otherwise ordered.

No. 201, 1-INCH MICROMETER CALIPERS

Fig. 32414B

This caliper is for the measurement by thousandths up to 1 inch

Has locknut but no ratchet stop.

Price . . each 9.50
" with Leather Case . " 10.50

Sent without case, unless otherwise specified.

No. 208, 1-INCH MICROMETER CALIPERS

Fig. 32414C

For measurement by ten-thousandths up to 1 inch Has ratchet stop but no locknut.

Price . . . . . each 10.75
" with Leather Case . . . . . " 11.75

Sent without case unless otherwise ordered.

No. 213, 2-INCH MICROMETER CALIPERS

Fig. 32414D

For measurement by ten-thousandths from 1 to 2 inches, with locknut, ratchet stop, and 1-inch test gauge.

Price . . . . . each 12.75
" with Leather Case . . . . . " 14.00

Sent without case unless otherwise ordered.

No. 214, 2-INCH MICROMETER CALIPERS

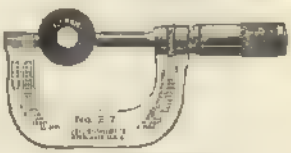


Fig. 32414E

For measurement by ten-thousandths from 1 to 2 inches. Has locknut and 1-inch test gauge, but no ratchet stop.

Price . . . . . each 12.25
" with Leather Case . . . . " 13.50

Sent without case unless otherwise ordered.

No. 212, ATTACHMENT FOR 2-INCH MICROMETER CALIPERS

Fig. 32414F

This attachment, by means of which a 2-inch micrometer may be instantly converted into a 1-inch tool, will be furnished, when ordered, with any Starrett 2-inch micrometer. Will not fit No. 226 micrometer.

Price . . . . each 3.00

STARRETT'S TOOLS

No. 650 YANKEE MICROMETER CALIPERS

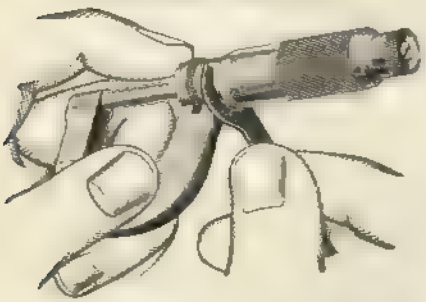
Fig. 14609A

In the construction of this caliper the Starrett feature of having the anvil solid in the frame is still retained, also a new method provided to adjust the spindle in relation to the anvil, so that the reading of the micrometer will be correct. This is accomplished by loosening the knurled speeder and rotating thimble until the 0 line and reading line coincide.

This caliper is for measurements by thousandths up to one inch. Has improved speeded screw with means for adjusting to compensate wear. Frame is made of drop forged steel, nickel-plated, dull finish.

WITHOUT RATCHET STOP		
Price, without Case.....	each	7.50
" with Case.....	"	8.50
WITH RATCHET STOP		
Price without Case	each	8.00
" with Case	"	9.00

ADJUSTING CALIPERS



When it becomes necessary to readjust the tool to compensate for the wear of screw and nut, this is done, not by the anvil, but by means of the friction sleeve, as follows: Take up the wear of screw and nut, then remove all dirt from face of the anvil and spindle and bring them together carefully. Insert the wrench in the small hole and turn until the line on the sleeve coincides with the zero line on the thimble.

HOW TO READ A MICROMETER CALIPER

The spindle C is attached to the thimble E at the point H. The part of the spindle which is concealed within the sleeve and thimble is threaded to fit a nut in the frame A.

The frame being held stationary, the thimble E is revolved by the thumb and finger, and the spindle C being attached to the thimble revolves with it, and moves through the nut in the frame, approaching or receding from the anvil B.

The measurement of the opening between the anvil and the spindle is shown by the lines and figures on the sleeve D and the thimble E.

The pitch of the screw threads on the concealed part of the spindle is 40 to an inch. One complete revolution of the spindle, therefore, moves it longitudinally one fortieth (or twenty-five thousandths) of an inch. The sleeve D is marked with 40 lines to the inch, corresponding to the number of threads on the spindle.

The beveled edge of the thimble is marked in twenty-five divisions, and every fifth line is numbered from 0 to 25.

To read the caliper, therefore, multiply the number of vertical divisions visible on the sleeve by .25, and add the number of divisions on the bevel of the thimble, from 0 to the line which coincides with the horizontal line on the sleeve. For example, as the tool is represented in the illustration, there are seven divisions visible on the sleeve. Multiply this number by 25, and add the number of divisions shown on the bevel of the thimble, 3. The micrometer is open one hundred and seventy-eight thousandths. (7 by 25=175, plus 3 equals 178.)

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STARRETT'S TOOLS

½-INCH No. 233 MICROMETER CALIPERS

Fig 32788A

For measurement by ten thousandths up to one-half inch.
Has lock nut, ratchet stop and short anvil

Price . . . . . each 10 25
" With Leather Case " 11.25
Sent without case unless otherwise ordered.

½-INCH, No. 219 MICROMETER CALIPERS

Fig. 32788B

For measurement by ten thousandths up to one-half inch.
Has lock nut and ratchet stop.

Price . . . . . each 10 25
" With Leather Case . . " 11.25
Sent without case unless otherwise ordered.

½-INCH, No. 218 MICROMETER CALIPERS

Fig. 32788C

For measurement by ten thousandths up to one-half inch.
Has ratchet stop but no lock nut.

Price . . . . . each 9.25
" With Leather Case . . . " 10.25
Sent without case unless otherwise ordered.

UNIVERSAL BEVEL PROTRACTORS No. 364

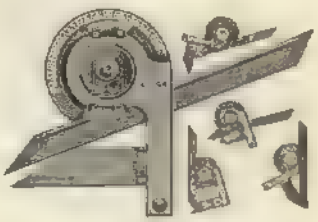


Fig 32788D

This protractor is equipped with an acute angle attachment which enables the user to obtain very small angles.

Also made with verniers reading five minutes or one-twelfth of a degree.

Protractor stock is 4 inches long and has either 7 or a 12-inch blade, ½-inch wide. Disc is graduated in degrees from 0 to 90 each way and rotates the entire circle on a central stud inside the case.

No.	Length Blade Inches	Price Each	No.	Length Blade Inches	Price Each
364A	7	16.25	364D	12	*19 50
364B	7	*17.75	364E	7 or 12	18.50
364C	12	17.50	364F	7 " 12	20.50

*In leather case
No 364A sent unless otherwise ordered.

No. 455 SOFT LEATHER CASES FOR MICROMETER CALIPERS

Fig 32788E

For use in carrying a micrometer in the pocket. Made to hold ½-inch, 1-inch or 2-inch calipers.

Price . . . . . each .45

STARRETT'S TOOLS

No. 24 MICROMETER CALIPER GAUGES

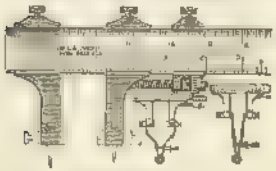


Fig. 34937A

Fits scales 1¼ inches wide, .085 inch thick, and 12, 18, 24 and 36 inches long. Head of gauge carries auxiliary tram points.

Length Inches	Price Each	Length Inches	Price Each	Length Inches	Price Each
12	15.75	24	20.00	48	31.50
18	17.50	36	24.00	..	.....

Nos. 575 AND 585 SCREW THREAD MICROMETER CALIPERS

Fig. 34937B

The movable spindle is pointed and the end of the anvil is of the same form as the thread to be measured.

No.	Capacity Inches	Range Threads	Price Each
575A	1	8 to 13	12.00
575B	1	14 " 20	12.00
575C	1	22 " 30	12.00
575D	1	32 " 40	12.00
585A	2	4½ " 7	14.50
585B	2	8 " 13	14.50
585C	2	14 " 20	14.50
585D	2	22 " 30	14.50

Form of thread, V and U.S. or Whitworth standard

RATCHET STOP FOR MICROMETER CALIPERS

Fig. 34937C

The ratchet slips by the pawl when more than a certain amount of pressure is applied, and so prevents the measuring spindle from turning further and perhaps springing the instrument.

Prices on application.

No. 239 HEAVY MICROMETER CALIPERS

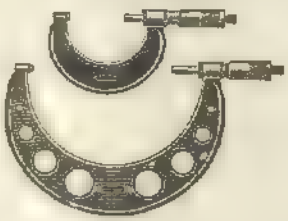


Fig. 34937D

The spindle and the screw portion is of larger area than in the regular micrometer. The calipers from 2 to 6-inch, inclusive, are made from drop forgings and the larger sizes from 7 to 12-inch are made from steel castings.

The bearing parts and measuring surfaces are hardened to prevent wear.

The same means is provided for adjustment as in all the other Starrett micrometers. They are made with locknut and ratchet stop. The sizes are stamped to show their capacity.

Size Inches	Price Each	Price with Standard	Leather Case Extra
1 2	13.25	14.75	1.50
2 3	14 50	16.00	2 25
3 4	16.00	17 75	2.75
4 5	17 50	19 50	3.25
5 6	19.00	21.25	3.75
6 7	20.50	23.50	.
7 8	22 00	25.25	
8 9	23.50	27.25	
9 10	25 00	29.00	.
10 11	26.50	30.75	.
11 12	28.00	32.50	. .

Leather cases are not supplied for sizes above 6 inch

Micrometers sent without case, and with standard unless otherwise ordered.

Each size sent in a strong wooden box.

1-INCH, No. 113 MICROMETER CALIPERS

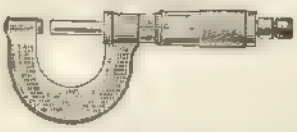


Fig. 34937E

For measurements by 10,000ths up to 1 inch. Has locknut and ratchet stop.

Price . .each 11.75

" with Leather Case " 12.75

Write us Your Requirements for Goods Not Listed.

For Nearly a Century the Store of Service.

STARRETT'S TOOLS

MICROMETER CALIPERS

No. 226

Fig. 5648A

These calipers meet the demand for accurate gauges at a low price. They are better adapted for general use than the vernier or bar micrometer, as they can be set quickly for the different measurements and are more easily read.

Each caliper is graduated to read by thousandths of an inch, is furnished with patent lock nut, and is sent with or without ratchet stop as desired

The frames are drop-forged from bar steel and are nicely finished. The 1-inch has the decimal equivalents stamped on the frame. The other sizes are marked to show their capacity. Standards for use in adjusting these calipers will be furnished when desired.

Calipers will be supplied singly or in sets as desired and will be sent with ratchet stop and without leather case or standard unless otherwise ordered

Size Inches	Capacity Inches	Price, Each Without Ratchet Stop	Price, Each With Ratchet Stop	Price Case Each
*1	. ..	9.50	10.00	1 00
2	1 to 2	8.50	9.00	1 25
3	2 " 3	10 00	10.50	1 50
4	3 " 4	10.75	11.25	2 50
5	4 " 5	12.00	12.50	2 75
6	5 " 6	13.00	13.50	3.00

*With decimal equivalents stamped on frame.

For calipers in sets, see right-hand column.

MICROMETER SETS

No. 226
SET OF THREE

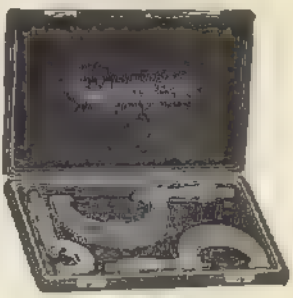


Fig. 5648B

No 226A

Comprising No. 650 1-inch, No. 226, 2 and 3-inch, all without ratchet stop

Price, without Case... each 26 00
" with Case " 30.00

No. 226B

Comprising No. 650 1-inch; No. 226, 2 and 3 inch, all with ratchet stop

Price, without Case.....each 27.50
" with Case..... " 31.50

STANDARDS

Price, 2 in Set ..... per set 3.00

SET OF SIX

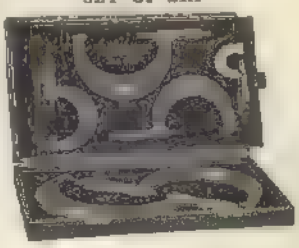


Fig. 5648C

No. 226E

Comprising No. 650 1-inch, No. 226, 2, 3, 4, 5, and 6-inch, all without ratchet stop.

Price, without Case.....each 61.75
" with Case..... " 69.25

No. 226F

Comprising No. 650 1-inch; No. 226, 2, 3, 4, 5 and 6-inch, all with ratchet stop

Price, without Case..... each 64 75
" with Case ..... " 72.25

STANDARDS

Price, 5 in Set.....per set 9.15

STARRETT'S TOOLS

No. 223 PAPER GAUGE MICROMETER CALIPERS

Fig 24243A

For measuring thickness of paper, sheet rubber, cardboard, etc. Discs are placed on anvil and spindle so that measurements can be taken without compressing the articles measured. Measures all sizes less than ½ of an inch by thousandths.

Price, with Ring, no Ratchet..each **10.50**
" Same, with Case..... " **11.50**
" with Ring and Ratchet. " **11.00**
" Same, with Case..... " **12.00**

No. 222 MICROMETER SHEET METAL GAUGES

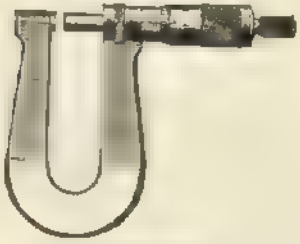


Fig. 24243B

This gauge has 2-inch depth of throat to reach over the edge of sheet metal to gauge its thickness nearer the center.

Has ½-inch movement of screw. The screw is covered by a patent shell with its indicator mark, which enables one to take up wear to a nicety and insures a correct reading, the anvil remaining solid

It also has a patent ratchet friction feed, which insures uniform pressure against the work without springing the frame, as well as the patent locknut to lock the spindle firm when desired to make a solid gauge.

Price .....each **11.25**
" with Leather Case..... " **13.75**

No. 577 BENCH MICROMETER CALIPERS

Fig. 24243C

For measurement by thousandths or ten thousandths up to 1 inch. Made with heavy base and is rigid and accurate. Especially adapted to inspectors, watchmakers, etc., for taking fine measurements on work of such class that can be better inspected when used on a bench.

Price, No. 577A, with Fine Points 075 Diam. . . . . .each **12.00**
Price, No. 577B, with Regular Points, .235 Diam. . . . . .each **11.50**
Price, No. 577C with Fine Points 075 Diam. . . . . .each **13.75**
Price, No. 577D, with Regular Points 235 Diam. . . . . .each **13.25**

Nos. 577A and 577B, read by thousandths; Nos. 577C and 577D by ten thousandths.

No. 228 HUB MICROMETER CALIPERS

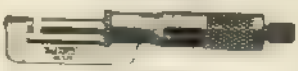


Fig. 24243D

Especially useful in the manufacture of such articles where exact hub lengths are required. Will pass through a ¾-inch hole. Measures by thousandths up to 1 inch. Has locknut and ratchet stop.

Price. . .....each **10.00**
" with Leather Case..... " **11.00**

No. 263 MICROMETER CALIPER HEADS

Fig. 24243E

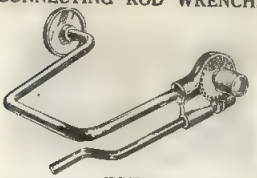
Equipped with ratchet stop and lock nut and graduated to read to thousandths of an inch. Furnished without ratchet or locknut when desired.

Price. . . . . .each **5.50**

Write us Your Requirements for Goods Not Listed.

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE

CONNECTING ROD WRENCH.



IDEAL.

Does away with worry and grief in tightening fourth connecting rod on **FORD** cars. There is no wrench on the market that does this work as successfully as our Ideal Wrench. No skinned hands; no nuts cut off with hammer and chisel; no taking motor down. Simply take off inspection plate and a few minutes will do the job.

The Ideal Wrench is a combination of brace and worm gear with a socket fitting the nuts on not only the fourth connecting rod but may be used in many inaccessible places on other than **FORD** cars.

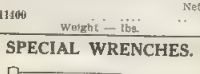
The Operation is Simple.

Simply place socket over nut, give a partial sweep of brace to loosen, then wind off with small crank. To tighten, reverse the operation. Finish with the brace sweep. Only one adjustment needed for both operations. Remember, the small crank turns left to tighten and right to loosen.

We guarantee the Ideal Wrench to do the work simply, easily and cleanly.

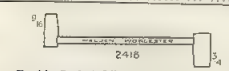
	Net Each
NO. M1400	$10.00
Weight — lbs.	

SPECIAL WRENCHES.



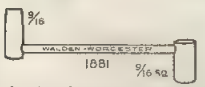
Socket size 11/16 inch hex. Used on fly wheel cap screws, heretofore considered an impossible place for a socket wrench. An ugly place made accessible.

	Net Each
NO. M3822 Weight 12 oz.	$1.00
In lots of 12	.88
In lots of 72	.80



Double Socket Offset Wrench. Socket sizes 9/16 inch and 3/4 inch; handle 11 inches. Used on brake shoe support, connecting rod clamp, crank shaft (main) bearing, fan bracket spindle, steering gear post, steering post bracket, spindle connecting rod, and front radius rod.

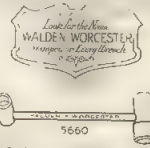
	Net Each
NO. M2418—Weight 1 lb.	$1.21
In lots of 12	1.10
In lots of 72	1.00



Socket sizes, 9/16 hex and 9/16 square. Length over all 9 inches. Will fit the following: Crank shaft, bolt and nut; piston pin, locking screw; running board, bolt nut; running board to fender, bolt nut.

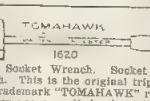
	Net Each
NO. M1881—Weight 1¾ lbs.	$1.66
In lots of 12	1.46
In lots of 72	1.32

SPECIAL WRENCHES.



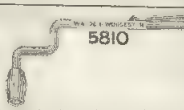
Triple Socket Offset Wrench. Socket sizes 11/16, 7/8 and 1 inch; designed for heavy duty. Used on drive shaft pinion, front spring clip, hub bolt and nut, radius rod, rear hub lock, rear spring clip spindle arm, and body bolts.

	Net Each
NO. M5660—Weight 1½ lbs.	$1.82
In lots of 12	1.63
In lots of 72	1.46



Triple Socket Wrench. Socket sizes 5/8 and 1/2 inch. This is the original triple socket wrench. Trademark "TOMAHAWK" registered. Designed for use on cylinder head bolts, rear axle housing nuts, water intake and outlet cap screws, rear axle nuts, crank case lower cover, drive shaft housing stud nuts, differential drive gear cap screws, controller shaft bracket nuts.

	Net Each
NO. M1620—Weight 1 lb.	$1.08
In lots of 12	.96
In lots of 72	.86

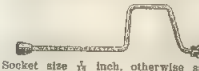


Connecting Rod Wrench. Fits all connecting rod cap nuts. Includes the fourth connecting rod. This is an original design, the first wrench made to reach the fourth connection without removing the engine from the car. Be sure you get the wrench with all right angle bends and loop handle No. 5810 stamped on handle.

	Net Each
NO. M5810—Weight lbs.	$0.82
In lots of 12	.74
In lots of 72	.66

Special Designed Speed Wrench, 12½ inch overall, ⅛ inch socket, particularly for use on crank case lower cover. Also used on axle housing, differential drive gear, front and rear fenders and muffler rods. This tool is generally useful on all 7/8 inch A. L. A. M. cap screws on all cars.

	Net Each
NO. M6064—Weight 1 lb.	$1.14
In lots of 12	1.02
In lots of 72	.92



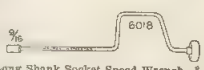
Socket size 7/8 inch, otherwise same as No. 6016.

	Net Each
NO. M6014—Weight 1½ lbs.	$1.82
In lots of 12	1.18
In lots of 72	1.06

SPECIAL WRENCHES.

Long Shank Brace Socket Wrenches are used as speed tools in assembling and dismantling cars. Are most efficient when used on a series of the same sized nuts as on cylinder heads. To gain the most time in removing nuts first release the nut with an offset socket wrench, then spin nut off with Brace or Speed Wrench. These tools are big time savers, and are considered indispensable in garages where they have been tried.

	Net Each
NO. M6016—Socket size ⅜ inch. Weight 1¼ lbs.	$1.32
In lots of 12	1.18
In lots of 72	1.06



Long Shank Socket Speed Wrench, 9/16 inch, handle 6 inches, shank 12 inches. Used on ball and socket joint, clutch release fork clamp, commutator case support, crank case arm, engine bolts, cylinder cover, cylinder valve cover, fan adjustment, front radius rod ball, inlet and exhaust clamp, muffler bracket, radiator, transmission cover, and universal ball.

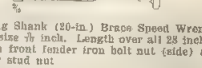
	Net Each
NO. M6018—Weight 1⅛ lbs.	$1.32
In lots of 12	1.18
In lots of 72	1.06

Brace Socket Speed Wrench, long shank, socket size 5/8 inch. Used on brake and reverse supports, brake shoe support, cylinder inlet and outlet connections, cylinder head, drive shaft roller bearing housing studs, front and rear spring tie bolts, running board fender and controller shaft bracket nuts.

	Net Each
NO. M6020—Weight 1⅛ lbs.	$1.32
In lots of 12	1.18
In lots of 72	1.06

Brace Socket Speed Wrench, long shank, same as No. 6020 except socket size ¾ inch.

	Net Each
NO. M6024 Weight 1¾ lbs.	$1.32
In lots of 12	1.18
In lots of 72	1.06

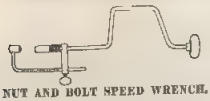


Long Shank (20-in.) Brace Speed Wrench. Socket size 7/8 inch. Length over all 23 inches. Used on front fender iron bolt nut (side) and radiator stud nut.

	Net Each
NO. M6218—Weight 1¾ lbs.	$1.66
In lots of 12	1.46
In lots of 72	1.32

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE.

SPECIAL WRENCHES.



NUT AND BOLT SPEED WRENCH.

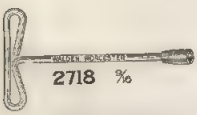
A one-man tool. The extension socket holds either the nut or bolt head while the operator spins it off. Extension arm is adjustable for different bolt lengths.

Socket sizes, ⅜ inch hex and ½ inch hex. Length over all 20⅝ inches. Will fit the following. Rear axle housing bolt and nut.

	Net Each
NO. M6316—Weight 1¾ lbs.	$4.50
In lots of 12	4.00
In lots of 72	3.60

Socket sizes, ⅞ hex and 1" hex. Length over all 20⅝ inches. Will fit the following: Ball socket, bolt and nut; crank case arm, bolt and nut (side); steering post bracket, bolt and nut; steering yoke clamp, bolt and nut; transmission cover, bolt and nut.

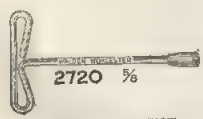
	Net Each
NO. M6318—Weight 1¾ lbs.	$4.50
In lots of 12	4.00
In lots of 72	3.60



TEE HANDLE WRENCH.

Tee Handle Wrench. Socket ⅝ inch, handle 6 inches, shank 12 inches. Used on ball and socket joint, clutch release fork clamp, commutator case support, crank case arm, engine bolts, cylinder cover, cylinder valve cover, fan adjustment, front radius rod ball, inlet and exhaust clamp, muffler bracket, radiator, transmission cover, and universal ball.

	Net Each
NO. M2718—Weight ¾ lb.	$0.92
In lots of 12	.82
In lots of 72	.74



TEE HANDLE WRENCH.

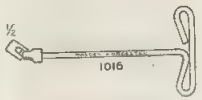
Tee Handle Wrench. Socket ⅝ inch, handle 6 inches, shank 12 inches. Used on brake and reverse support, brake shoe support, cylinder inlet and outlet connections, cylinder head drive shaft roller bearings front and rear spring tie, run board fender, and controller shaft bracket nuts.

	Net Each
NO. M2720—Weight 1½ lbs.	$0.92
In lots of 12	.82
In lots of 72	.74

SPECIAL WRENCHES.

"T" Handle Wrench, same as No. 2720 except 1¼ inch socket. Handle 6 inches, shank 12 inches.

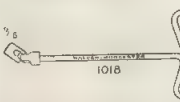
	Net Each
NO. M2722—Weight 1½ lbs.	$0.92
In lots of 12	.82
In lots of 72	.74



TEE FLEX WRENCH.

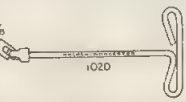
Socket size, ½ inch hex. Length over all, 13¼ inches. Will fit the following: Crank case, lower cover screw; dash bracket to dash, bolt nut; muffler rod nut; steering tube flange, bolt nut.

	Net Each
NO. M1016—Weight 1 lb	$3.76
In lots of 12	3.34
In lots of 72	3.00



Socket size, ⅜ inch hex. Length over all 13⅛ inches. Will fit the following: Carburetor flange, bolt and nut; commutator case support bolt; cylinder valve cover, stud nut; inlet and exhaust clamp, stud nut; universal ball cap, bolt and nut; universal ball cap, cap screw.

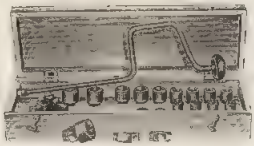
	Net Each
NO. M1018—Weight 1½ lbs.	$3.76
In lots of 12	3.34
In lots of 72	3.00



Socket size, ⅜ inch hex. Length over all, 13¼ inches. Will fit the following: Connecting rod cap nut; cylinder head cap screw; water cylinder inlet connections, cap screw.

	Net Each
NO. M1020—Weight 1½ lbs.	$3.76
In lots of 12	3.34
In lots of 72	3.00

SPEED WRENCH SOCKET SET.



"MOSSBERG."

There is no other set like this on the market, and the particular reason for it, is to take the place of the solid speed brace socket wrenches, and the resulting economy to the garage mechanic.

This Mossberg set is furnished with one speed brace handle, all steel with swivel metal top, and so arranged that it will accommodate all of the fifteen sockets interchangeably by means of the ball spring friction on the half inch square end.

With socket attached to the handle the wrench is 19¼ inches long.

All finishes on this set are Parker Rust-Proof.

These fifteen sizes of sockets fit all U. S. and S. A. E. bolts, nuts and screws up to ⅞ inch diameter and because they are the heaviest sockets that are made, they are rightly named "indestructible." A universal joint and connection socket further gives unlimited scope of adjustment. When sockets are attached, the whole wrench develops 19¼ inches long. All units are finished in black rust-proof.

No. 45 Set Contains:

One Speed Brace Handle. No. 359, with interchangeable head and sockets held to handle by ball spring friction.

One Universal Joint, No. 336.

One Connection Socket, No. 187—½ inch square socket for use as connection unit.

Fifteen sizes of all-steel indestructible heavy duty sockets.

	Net Per Set
NO. M45	$15.40
Weight lbs.	

TEE HANDLE WRENCHES.

Short shank tee handle wrench 6-inch handle, 6-inch shank.

	Net Each
NO. M2614—7/16 inch socket	$0.82
NO. M2616—½ inch socket	.82
NO. M2618—9/16 inch socket	.82
NO. M2619—⅝ inch socket	.82
NO. M2620—11/16 inch socket	.82
NO. M2622—¾ inch socket	.82
NO. M2624—13/16 inch socket	.82
NO. M2626—⅞ inch socket	.82
NO. M2625—15/16 inch socket	.82
NO. M2628—1 inch socket	.82
In lots of 12	.74
In lots of 72	.66
Average weight 1 lb.	

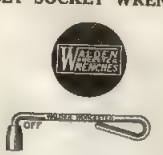
EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE

TEE HANDLE WRENCHES. OFFSET SOCKET WRENCHES. SPECIAL WRENCHES.

Long shank Tee handle 6-inch handle, 12-inch shank.

		Net Each
NO. M2714—	7/16 inch socket	$0.92
NO. M2716—	½ inch socket	.92
NO. M2718—	9/16 inch socket	.92
NO. M2719—	5/8 inch socket	.92
NO. M2720—	11/16 inch socket	.92
NO. M2722	¾ inch socket	.92
NO. M2731	13/16 inch socket	.92
NO. M2725	⅞ inch socket	.92
NO. M2726—	15/16 inch socket	.92
NO. M2728—	1 inch socket	.92
In lots of 12		.82
In lots of 72		.74

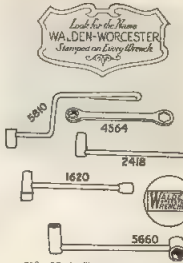
Average weight 1½ lbs.



Offset socket wrench, 7-inch handle

		Net Each
NO. M2514—	7/16 inch socket	$0.76
NO. M2516—	½ inch socket	.76
NO. M2518—	9/16 inch socket	.76
NO. M2519—	5/8 inch socket	.76
NO. M2520—	11/16 inch socket	.76
NO. M2522—	¾ inch socket	.76
NO. M2524—	13/16 inch socket	.76
NO. M2525—	⅞ inch socket	.76
NO. M2526—	15/16 inch socket	.76
NO. M2528—	1 inch socket	.76
In lots of 12		.66
In lots of 72		.60

Average weight ⅝ lb



NO. 57 SET—FORD SET.
Weight 5.52 lbs.

NO. 1620.

Tomahawk. Triple Socket Wrench. Socket sizes ⅝ inch and ½ inch. This is the original Triple Socket Wrench, trademark "TOMAHAWK." Will fit the following: Axle housing bolt and nut, brake shoe support bolt, cylinder head cap screw, dash bracket to dash bolt and nut, drive shaft roller bearing, stud nut, water cylinder inlet connection cap screw, water cylinder outlet connection cap screw.

NO. 5810.

Connecting Rod Wrench. This is an original design, the first wrench made to reach the fourth connection without removing the engine from the car.

NO. 4564.

Ratchet Wrench ½ inch hex. opening for use on the **FORD** brake and reverse transmission bands. Opposite end ½ inch for use on slow speed connecting lock nut and also CHAMPION X Spark Plugs

NO. 5660.

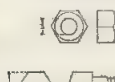
Triple Socket Offset Wrench. Socket sizes, ½, ⅝ and ¾ inch. Length over all, 10½ inches. Will fit the following: Body bracket connecting bolt and nut, front radius rod nut, front spring perch nut, front and rear spring hanger nut, hub bolt and nut, radius rod bolt and nut, rear spring clip nut, spindle bolt with oiler, spindle connecting rod bolt with oiler, spindle connecting rod bolt nut.

NO. 2418.

Double Socket Offset Wrench. Socket sizes, ⅞ and ¾ inch. Length over all, 9 inches. Will fit the following: Brake reverse support bolt and nut, brake shoe support bolt, clutch pedal support bolt and nut, crank case arm bolt and nut (side), crank case arm bolt and nut (top), crankshaft bearing bolt nut, crank shaft rear bearing bolt, dash bracket to dash bolt and nut differential case stud and nut, fan bracket bolt front fuder iron bolt and nut (bottom), front spring clip nut, inlet and exhaust clamp stud and nut, spindle bolt nut, steering post bracket bolt and nut steering yoke clamp bolt and nut, universal ball cap bolt and nut universal ball cap screw.

	Net Per Set
NO. M57—Set complete	$6.94
Lots of 12 sets	6.16
Lots of 72 sets	5.54

IMFORMATION AS HOW TO FIND PROPER SIZE WRENCH REQUIRED FOR DIFFERENT SIZE BOLTS.



BOLT, NUT AND SCREW SIZES

are the diameter across the threads as noted on cuts marked "S" owing to the many varying standards with varying head sizes.

SOCKET WRENCH SIZES

must be the short diameter of the bolt or screw head or the nut as noted on cuts marked "D." Wrench socket sizes as listed are made 1/64 inch over size to allow clearance.

SERVICE—USE AND ABUSE.

Sockets are thoroughly well made and finished to size and if used on proper sizes will give unlimited service. Sockets used on undersized nuts will round out and no material or workmanship can offset such abuse.

Sockets are built to fit certain size heads but if driven on with a hammer we cannot guarantee they won't split. Would you? That, again, is abuse.

HOW TO FIND WRENCH SIZES.

Customers ask us why we do not make say a 3/8 inch wrench? Is the size wanted an S. A. E. Nut or Cap Screw or U. S. Cap Screw or U. S. S. Nut? Refer to table of sizes and find a 3/8 inch S. A. E. or U. S. S. Cap Screw take a 9/16 inch socket (which is the wrench size) a 3/8 inch U. S. S. Nut takes a 11/16 inch socket. Simple, is it not?

SOCKET SIZES	SIZES SCREW-BOLT-NUTS S.A.E. NUTS CAP SCREWS	U.S. STAN. NUTS	U.S. CAP SCREWS	U.S. STAN. BOLT HEADS
7/16	1/4		1/4	
1/2	5/16	1/4	5/16	
9/16	3/8		3/8	3/8
19/32		5/16		
5/8	7/16		7/16	
11/16		3/8		7/16
3/4	1/2		1/2	1/2
25/32		7/16		
13/16			9/16	
7/8	9/16	1/2		
15/16	5/8		5/8	5/8
1	11/16		3/4	
1 1/16	3/4	5/8		
1 1/8			7/8	3/4
1 1/4	7/8	3/4	1	

YOU WILL FIND ALL WRENCHES IN THIS SET LISTED, DESCRIBED AND PRICED INDIVIDUALLY IN FOREGOING PAGES.

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE

TOOL KITS.

FOR FORD CARS.

For quick repair work on **FORD** Cars, a few special wrenches are required. Every special wrench for **FORD**, that is necessary and conveniently packed in a waterproof kit, is the description of the No. 675 "Repair kit." Every unit is guaranteed.

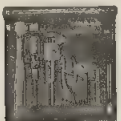
Contents.

1 No. 607 Valve Grinder
1 Triple End Cylinder Head and Rear Axle Housing Wrench, No. 620.
1 No. 623 Connecting Rod Wrench
1 No 650 Hub Cap Wrench.
1 No. 645 Ratchet Transmission Wrench

An exceptionally saleable arrangement in a convenient "under-the-seat" package.

Net Per Set

NO. M675 ..... $3.70



FOR FORD CARS.

A tool kit made up to correspond as nearly as possible with the sets furnished with **FORD** cars. Strictly high grade in every respect.

Net Pet Set

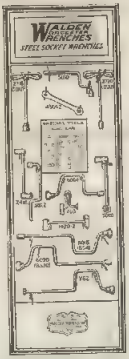
NO. M2%—Put up in high grade canvas rolls $4.40

DIRECTORY OF WRENCHES

FORD CAR

Axle housing bolt and nut	6064-1620
Ball socket bolt and nut	6018
Body bracket bolt nut	5660
Brake adjusting nut	4564
Brake reverse support bolt and	2418
Brake shoe support nut	2418
Carburetor flange bolt and nut	1018
Clutch pedal support bolt nut	2418
Commutator case support bolt	2718-6018
Commutator case support bolt (On cars with self starter)	2720-6020
Connecting rod cap bolt nut	5410 1020
Controller shaft bracket bolt nut	2418
Crank case arm bolt and nut (side	2718
Crank case arm bolt and nut (top)	2418
Crank case end cyl. cover cap screw	6018-2718
Crank case lower cover screw	6064
Crank shaft bearing bolt	1881
Crank shaft bearing bolt centre and front	1381-2418
Crank shaft bearing bolt nut	2418
Cylinder cover bolt nut	2718
Cylinder cover cap screw	2718-6018
Cylinder cover cap screw (Cars with self starter)	2720-6020
Cylinder head cap screw	1620-6020
Cylinder valve cover, stud nut	1018
Dash bracket to dash bolt nut	6064-1620
Differential case stud nut	2418
Differential drive gear screw	6064
Drive shaft roller bearing, stud nut	2720-1620
Fan adjusting screw	2718-6018
Fan bracket bol	2418
Fly wheel cap screw	3822
Front fender iron bolt nut (side)	2418
Front fender iron bolt nut (bottom)	2418
Front radius rod nut	5660
Front spring shackle spring hanger nut	5660
Front spring clip nut	2418
Front spring perch nut	6660
Hub brake rod support, bolt and nut	1620
Hub bolt nut	6022-5660
Inlet and exhaust clamp stud nut	1018-2418
Magnet bolt	6018-2718
Muffler rod nut	6064-6016
Piston pin lock screw	1881
Radiator stud nut	2718
Radius rod bolt and nut	5660
Rear hub lock nut (late models)	2462
Rear hub lock nut	5660
Rear spring clip nut	5660
Reverse adjusting nut	4564
Running board, bolt nut	1881
Running board to fender, bolt nut	1881
Spindle bolt nut	2418
Spindle bolt with oiler	5660
Spindle connecting rod bolt and nut	5660
Spindle connecting rod bolt with oiler	5660
Steering post bracket, bolt nut	2418
Steering tube flange bolt nut	6064
Steering yoke clamp bolt and nut	2418
Transmission cover bolt and nut	6018
Universal ball cap, bolt and nut	1018-2718
Universal ball cap screw	2418-1018
Water cylinder inlet connection cap screw	1620
Water cylinder outlet, connection, ap screw	1620

WRENCH ASSORTMENTS.



On this Board are shown tools that will fit any nut or bolt on a **FORD** car from any angle or position. The only wrenches that will do this.

Every wrench a tested, proven, practical, economical tool and just as desirable for the owner as for the repairer

Tools of the greatest utility which can be used in any work on any car at home, on the road or in the shop

Walden-Worcester-Wrench Display Boards are a decided attraction in any store. They occupy but small space, are a constant working salesman, draw trade, bring profits and save clerks' time. Yet they are free to Walden-Worcester-Wrench dealers.

This is the handsomest wrench display board we have seen. The face of the board is covered with sheet metal, which is lithographed in black and golden red. The center panel in black and white contains the Directory and full information regarding all the different wrenches. The number of each wrench appears on the board as shown in the picture. The hooks are held by nut and check nut and will remain in permanent position

Set consists of following wrenches:

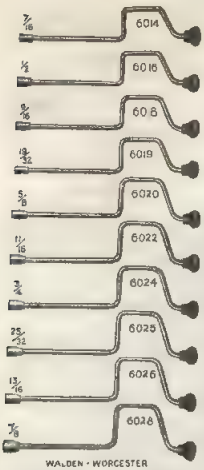
5 No. 1881 Double Socket.
5 No 1018 Tee-Flex
5 No 1020 Tee-Flex.
5 No 2720 5/8 Tee Handle.
5 No. 2718 3/8 Tee Hand e.
5 No 5810 Connecting Rod.
5 No 4564 1/4 Ratchet
5 No. 5660 Triple Offset Socket.
5 No V. G. 2 Valve Grinder.
5 No. 1620 Tomahawk
5 No. 2418 Double Offset Socket
5 No 6064 1/2-inch Socket Brace.
5 No. 3822 Fly Wheel Cap Screw.
5 No. 6018 7/8 Socket Brace
5 No 6020 5/8 Socket Brace
5 No. V. G. 3 Valve Grinder
5 No. 1018 7/8-inch Tee-Flex
5 No 1020 5/8 inch Tee Flex
5 No. 1881 7/8 Offset Wrench

Net Per Asst

NO. M80—Complete with display board.$119.64
Weight 152 lbs

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE

SPEED WRENCHES.



SPEED WRENCHES

Long Shank Brace Socket Wrenches are used as speed tools in assembling and dismantling cars. Are most efficient when used on a series of the same sized nuts as on cylinder heads. To gain the most time in removing nuts first release the nut with an offset socket wrench, then spin nut off with Brace or Speed Wrench. These tools are big time savers, and are considered indispensable in garages where they have been tried.

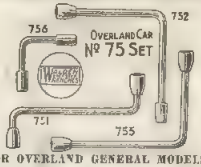
Net Per Set

NO. M600—Set complete, consisting of 10 Wrenches, sizes as above described $13.20
Weight 16¾ lbs.

Any of the above numbers not listed on other pages of this catalogue can be shipped from factory.

	Net Each
In Single Lots	$1.32
In Lots of 12	1.18
In Lots of 72	1.06

SPECIAL WRENCH SETS.



FOR OVERLAND GENERAL MODELS.

These wrenches specially designed to cover in general way all Overland models except the new Model No. 4 (which is covered by new set No. M76) These tools have been proven out by three years' test.

Body to frame	752
Connecting rods	752
Cover for timing gears	756
Cylinder head	751
Differential housing, front	755-751
Exhaust manifold to cylinder block	752
Fan adjustment	756
Generator support	752
Head lamp brackets	755
Main bearings	752
Motor support, rear	755
Muffler	756
Muffler support	756
Oil pan	756
Oil pump	756
Radiator support	755
Rear wheel hub flange	755
Spring clips, front axle	751
Spring perch	755-751
Spring shackles, front	751
Steering gear case support	751
Tie rod clevis	755-751
Transmission cover	756
Transmission support	755

Net Each

NO. M751 Double Socket Wrench, sizes ⅝ and ¾ inch, 10½ inches long $1.08

NO. M752 Double Socket L Wrench, sizes ⅞ and 1⅛ inch 1.08

NO. M755—Double Socket L Wrench with socket sizes ⅝ and ⅞ inch 1.08

NO. M756 Double Socket L Wrench, socket sizes ½ and ⅞ inch 1.00
Average weight 1¼ lbs

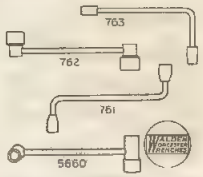
Net Per Set

NO. M75—Set complete, consists one each of the above numbers of wrenches $4.20
Weight 4 lbs.

DO YOU KNOW THAT

A Universal Lunch Kit provides a hot drink in the winter and a cold drink in the summer for the user.

SPECIAL WRENCH SETS.



FOR NEW OVERLAND "FOUR."

This particular selection of wrenches is necessary for this new model, but our No. M75 Set is right for all other Overland cars. Overland owners and service men know the value of these special socket wrench sets.

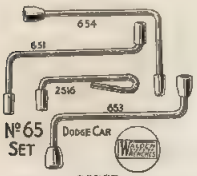
Body to frame	763
Brake support	5660
Clutch plate	763
Connecting rods	763
Cover for timing gears	763
Cylinder head	761
Demountable rims	761
Differential housing	762
Differential housing, front	761
Exhaust manifold to cylinder block	5660
Exhaust pipe flange	763
Fan adjustment	763
Fly wheel to crank shaft	763
Fly wheel housing	763
Front spindle pivot	5660
Front wheel to hub flange	5660
Gear worm wheel nut	761
Generator support	763
Head lamp brackets	761
Main bearings	761
Motor support, front	5660
Motor support, rear	5660
Muffler	763
Muffler support	763
Oil drain plug	762
Oil pan	763
Oil plug	763
Pedals	763
Radiator support	763
Rear hub nut	5660
Rear wheel to brake drum	5660
Rear wheel hub flange	5660
Spring bracket, front	763
Spring bracket, rear	5660
Spring clips, front	5660
Spring clips, rear	5660
Spring shackles, front	761
Spring shackles, rear	5660
Steering arm	763
Steering gear case cover	763
Steering gear case support	763
Tie rod and ball	761
Tie rod clevis	761
Transmission cover	763
Universal joints	763
Water cylinder inlet	763
Wrist pin	763

Net Per Set

NO. M76—Set complete $5.50
Weight 6 lbs.

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE.

SPECIAL WRENCH SETS.



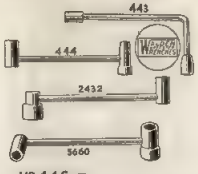
DODGE.

These wrenches have been designed specially for use on Dodge Cars, and have been approved by Dodge service men

A most efficient set of real service wrenches

Connecting rods	653
Cover for timing gears	444–654
Cylinder head	654
Differential housing, rear	651
Drag link	444–651
Exhaust manifold to cylinder block	444–651
Fly wheel housing	444–654
Front wheel hub flange	653
Gear case cover	651
Gear worm wheel nut	653
Head lamp brackets	444
Intake manifold to cylinder block	654 444
Main bearings	653
Master gear	651–444
Motor support, front	651
Motor support, rear	653
Muffler support	651–444
Oil pan	654
Spring clips, front axle	653
Spring shackles, front	653
Steering gear case cover	444
Steering gear case support	444
Steering shaft coupling	653
Tie rod	444–651
Tie rod clevis	653–444
Transmission cover	444–654
Universal joint	444
Water cylinder inlet	651–444
	Net
	Per Set

NO. M65—Set complete, consisting of one each of the 4 numbers of wrenches shown above. Weight 4 lbs..... $4.56

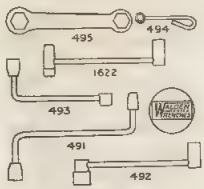


No. 44 SET BUICK CAR

These four wrenches have been designed to cover Buick Models and because of their efficiency in saving time and giving service they have been approved by Buick service men.

Battery connections	444
Connecting rods	444
Cover for timing gears	444
Crank case	443
Cylinder to base	2432
Differential housing, front	444
Differential housing, rear cover	444
Exhaust manifold to cylinder block	444
Fan adjustment	443
Fender to frame	2432
Fly wheel housing	444
Front wheel hub flange	5660
Generator support	444
Head lamp brackets	444
Intake manifold to cylinder block	444
Main bearings	2432
Motor support, rear	5660
Muffler support, front	444
Muffler support, rear	5660
Radiator support	443
Rear spring perch to housing	444
Rear spring pivot	2432
Rear wheel to brake drum	5660
Rear wheel hub flange	5660
Spindle pivot	2432
Spindle pivot nut	5660
Spring clips, front axle	2432
Spring shackle, front	5660
Steering gear case cover	444 443
Steering gear case support	2432
Tappett saddle straps	444
Tie rod	2432
Tie rod clevis	444
Tire carrier to frame	444
Torque rod, front	2432
Torque rod, rear	2432
Transmission cover	444
Universal joints	444
Valve brackets	444
Water cylinder inlet	444
Water cylinder outlet	444
Water pump support	444
	Net
	Per Set

NO. M44—Set complete, contains one each of the above four numbers of wrenches. Weight 5 lbs. $5.70



MAXWELL CAR.

No. 49 Set.

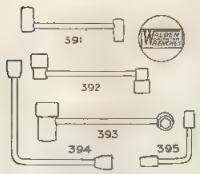
A complete set of wrenches covering important nuts and bolts on Maxwell car. Socket wrenches are always time savers.

Body to frame	1622
Cam shaft bearing	491
Carburetor to intake manifold	494
Clutch housing	491
Connecting rod bearings	491
Cover for timing gears	492
Cylinder head	493
Differential front bearing lock nut	491
Differential split	491
Exhaust manifold to cylinder block	491
Fan adjustment	493
Fender to frame	1622
Fly wheel housing	1622
Fly wheel to crank shaft	493
Front hub nut	492
Front of rear spring shackles	492
Front wheel hub flange	492
Head lamp brackets	493
Hub nut, front	492
Hub nut, rear	495
Intake manifold to cylinder block	494
Main bearings	491
Motor support, front	493
Muffler	493
Muffler support	1622
Oil pan	1622
Pedals	1622
Pinion housing	493
Radiator support	493
Rear hub nut	496
Running board bracket	493
Spindle pivot nut	491
Spring clips, front axle	493
Spring clips, rear axle	493
Spring shackles, rear	491
Steering arm	492
Steering arm clamp	491
Steering gear case cover	1622
Steering gear case support	495
Steering gear worm nut	495
Steering shaft coupling	1622
Tie rod and ball	491
Tie rod clevis	493-491
Tire carrier to frame	492
Transmission cover	491
Universal joints	492-493
Water cylinder inlet	1622
Wrist pin	491
	Net
	Per Set

NO. M49—Set complete, contains one each of the numbers shown above. Weight 5.14 lbs. $6.86

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE.

SPECIAL WRENCH SETS.



CHEVROLET CAR.

NO. 89 SET.

These five wrenches cover the essential parts of Chevrolet cars, have been designed for real service and will be popular with both garage men and owners.

Carburetor to intake manifold	396
Connecting rods	395
Cylinder head	394
Demountable rims	394
Differential housing, front	394
Differential housing, split	396
Exhaust manifold to cylinder block	396
Fender to frame	395
Front hub nut	393
Front wheel hub flange	391
Generator support	391
Hub nut, front and rear	393
Intake manifold to cylinder block	395
Main bearings	394
Motor support, front	391
Motor support, rear	394
Muffler support	396
Radiator support	395
Rear hub nut	393
Spindle pivot	394
Spring clips, front axle	392
Spring clips, rear axle	392
Spring shackles, front	393
Spring shackles, rear	393
Starter	397
Steering arm	393
Steering gear case support	396
Steering lever	391
Tie rod	391
Tie rod clevis	394
Transmission cover	395
Transmission support	393
Universal joints	395
Water cylinder inlet	291

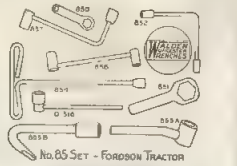
Net Per Set

NO. M39—Set complete, contains one each of the wrenches shown above..... $7.20

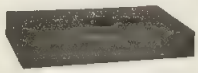
Weight 6 lbs.

DO YOU KNOW THAT

The Ferrostat Vacuum Bottle is unbreakable and just the thing for the automobilist?



FORDSON TRACTOR.



These wrenches will be found to answer the demands of either farmer or expert repair man in making repairs and adjustments on Fordson Tractors in quickest possible time

Clutch housing bolt	852
Clutch lever bracket bolt	851
Clutch shaft nut	851
Connecting rod cap bolt nut	856
Crank case bolt	856
Crank case nut	8.6
Crank shaft bearing cap bolt nut	853
Main bearing nut	
Cylinder front cover bolt	856
Cylinder front cover cap screw	856
Cylinder head cap screw	856
Dash cap screw	852
Differential housing bolt	856
Differential housing	856-B
Exhaust tube bracket bolt	853
Fan adjusting nut and screw	8s0
Foot bracket cap screw	854
Front wheel spindle nut	855-A
Fuel tank strap nut	856
Gear shifter plate cap screw	854
Radiator connection bolt	856
Radiator connection bolt nut	856
Radiator cover bolt	856
Radiator cover bolt nut	856
Radiator tank bolt	852
Radiator tank bolt nut	852
Radiator top tank cap screw	854
Radius rod bolt nut	01516
Rear axle housing cap screw	853
Rear axle split	856-855-B
Rear wheel hub cap screw	875 A B
Steering arm ball nut	.01316
Steering arm nut	856-A
Steering shaft nut	01516
Steering wheel nut	8s0-01516
Transmission housing bolt	856
Transmission housing bolt nut	856
Transmission housing cap screw	856
Transmission draw bar cap screw	853
Transmission housing plate cap screw	856
Transmission oil plug	856-A

Nut Per Set

NO. M85—Set complete, contains one each of the wrenches shown above..... $18.20

Each set is packed in a substantial wood box.

Weight 14 lbs.

This cut shows the wood box in which each No. M30 Garage Set (shown in column at the right) is packed.

Walden-Worcester have made nothing but wrenches, and particularly Socket Wrenches, since 1906.

We have actually tried our wrenches in the largest service stations in the East, and from this experience have gained valuable ideas, from which we have designed our wrenches.

In this garage set (No. 30) we have thirty (30) tools. Due to the fact that we have more than one sized socket on one tool, we have the equivalent of thirty-nine (39) different kinds of wrenches.

We have thirteen (13) sizes of offsets; ten (10) sizes of speed wrenches; six (6) sizes of L wrenches; five (5) special designed wrenches; three (3) demountable rim wrenches; two (2) Tee Handles.

There are no two of the same size of wrench from the same type of handle. We have chosen in this set wrenches to fit the popular makes of cars, including places where a particular type of wrench is needed.

To illustrate this point we have compiled a partial list of some of the principal parts on some cars. This set will cover thousands of parts and a complete list would entail pages and pages of important and lesser important parts. In this list we have not listed our speed wrenches, demountable rim wrenches and special wrenches, but they are as useful as these mentioned.

Net Per Set

NO. M30—Complete set of 30 wrenches .$36.30

Weight 41 lbs.

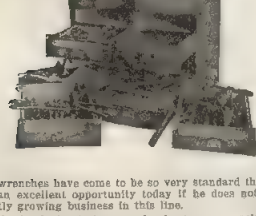
EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE.

SUGGESTIVE USE OF WALDEN-WORCESTER WRENCHES.

ADAPTIONS - NO. M30 GARAGE SERVICE SET.

Battery clamp	Buick	6069	Exhaust flange	Overland	(Model 4)	2716	Motor support rear	Buick	6069	Spring shackles front	Oakland	5660
Battery connecting	Buick	1259	Flywheel				Motor support rear	Chevrolet	1491	Spring shackles rear	Essex	2432
Brake support	Cadillac	1660	Flywheel				Motor support rear	Essex	2432	Spring shackles rear	Oakland	5660
	All 4	1660	Flywheel				Motor support rear	Maxwell	1491	Spring shackles rear	Overland	5660
Brake shaft support		1620	Flywheel		Chevrolet	1491	Motor support rear	Hupp	1491		(Model 4)	5660
Brake shaft support		1620	Flywheel				Motor support rear	Overland	1491	Starting motor	Chevrolet	1491
Brake support	Maxwell	1885	Flywheel		Buick	1491	Motor support rear	Overland		Steering arm	Dodge	941
Bushing adjusting plate		2716	Frame		Buick	1491	Motor support rear	Maxwell	5660	Steering arm	Maxwell	5660
					Essex	1491	Motor support	Maxwell	1491	Steering gear	Buick	1620
Cam shaft bearing	Maxwell	1881	Frame		Hudson	1491	Motor support	Hudson	1620	Steering gear case cover	Essex	1620
Cam shaft	Essex	1491	Frame		Maxwell	1491	Motor support	Maxwell	1620	Steering gear case cover	Hudson	1620
Clutch and brake pedals	Maxwell	1620	Frame		Oakland	1491	Muffler support	Oakland	1620	Steering gear case cover	Maxwell	1620
Clutch housing cover	Dodge	1491	Frame		Maxwell	1491	Muffler support rear	Buick	6069	Steering gear case cover	Oakland	1620-2716
Clutch	Maxwell	1491	Frame	Overland	Maxwell	1491				Steering gear case support	Buick	2432
Clutch plate	Overland	Model 4	Flywheel		Oakland	1491	Overland	Essex	1620	Steering gear case support	Essex	1620
Clutch shaft		Model 4	Flywheel		Oakland	1491	Overland	Model 4	5661	Steering gear case support	Oakland	5660
Connecting rod support	Ford	2716	Flywheel		Oakland	1491	Oil pump	Cadillac	1491	Steering gear case support	Overland	
Connecting rod	Buick	1491	Flywheel		Oakland	1491	Oil pump	Lodge	756		Model 4	2716
Connecting rod	Chevrolet	756	Flywheel		Oakland	1491	Oil pump cover			Steering knuckle	Essex	1491
Connecting rod	Dodge	941	Flywheel		Essex	1491	Oil pump cover	Hudson	1491	Steering shaft coupling	Hudson	1620-5660
Connecting rod	Hudson	1491	Flywheel		Hudson	1491	Oil pump support	Essex	5660	Steering shaft coupling	Maxwell	1620-5660
Connecting rod	Maxwell	1491	Flywheel		Maxwell	1491	Oil pump support			Steering universal arm	Chevrolet	5660
Connecting rod	Overland	Model 4	Flywheel		Oakland	1491	Oil pump support	Buick	6016	Steering yoke clamp	Ford	5919
Connecting rod	Maxwell	1491	Flywheel housing		Buick	1491	Oil pump support	Essex	5660			
Connecting rod cap	Ford	5919	Flywheel housing		Buick	1491	Oil pump support	Hudson	5660			
Connecting rod cap			Flywheel housing		Hudson	1491	Oil pump support	Maxwell	1491			
Counter shaft	Hudson	2432	Flywheel housing		Maxwell	1625-6016	Oil pump support	Overland		Tappet saddle straps	Buick	1881
Counter shaft	Essex	1620	Flywheel housing				Oil pump support	Model 4	2716	Tie rod	Buick	2432
Counter shaft gears	Buick	1491	Flywheel housing		Model 4	2716-5660	Radius rod	Chevrolet	2716	Tie rod bolt	Hudson	1620
Counter shaft gears	Essex	1620	Flywheel housing		Model 4	5661	Rear axle bearing nut, screw	Dodge	1620	Tie rod bolt	Essex	1620
Counter shaft gears	Hupp	1491	Flywheel housing		Maxwell	1491	Rear axle housing	Ford	1620-5660	Tie rod bolt	Oakland	2432
Counter shaft gears	Maxwell	1881	Flywheel housing		Cadillac	1491	Rear axle housing	Hupp	5660	Tie rod bolt	Hudson	5660
Counter shaft gears	Cadillac	1620-1491	Flywheel housing		Maxwell	1491	Rear axle housing	Maxwell	1620	Tie rod cotter	Essex	5660
Counter shaft gears	Overland		Foot brake adjustment		Ford	4561	Rear hub nut	Overland		Tie rod cotter	Ford	5660
	Model 4	2716-2718	Front axle		Oakland	1491	Rear hub nut	Overland		Tie rod cotter	Maxwell	1620
Counter shaft	Dodge	1620	Front axle		Buick	1491	Rear hub nut	Model 4	5660	Tie rod clevis bolt	Buick	1881
Crank case	Buick	2432	Front axle		Essex	1491	Rear wheel hub flange	Ford	5660	Tie rod clevis bolt	Chevrolet	1620
Crank case	Chevrolet	1620	Front axle		Ford	1491	Rear wheel hub flange	Buick	6016-6028	Tie rod nut	Hudson	2432
Crank case	Dodge	1491	Front axle housing flange		Hudson	1491	Rear wheel to brake drum	Overland		Tie rod nut	Essex	2432
Crank case	Hudson	2733	Front wheel hub flange		Hudson	2625	Rear wheel to brake drum	Maxwell	5660	Tie rod screw to frame	Buick	2716
Crank case arm	Ford	1631	Front wheel hub flange		Maxwell	1491	Rear wheel to brake drum	Essex	5660	Tire carrier to frame	Overland	
Crank case & cylinder cover	Ford	2716	Front wheel hub flange		Oakland	1491	Rear wheel to brake drum	Buick	5660		(Model 4)	5660
Crank case lower cover	Ford	5660	Front wheel hub flange		Cadillac	1491	Rear wheel to flange	Essex	5660	Timing gear cover	Dodge	941
Cylinder to base	Buick	2432	Front wheel hub flange		Overland		Rear wheel hub flange	Maxwell	5660	Timing gear cover	Buick	6016
Cylinder cover	Essex	2432	Gasoline strainer		(Model 4)	5660	Rear wheel hub flange	Overland		Transmission cover	Essex	1620
Cylinder cover	Ford	2716	Generator bracket		Buick	1491	Reverse idler flange	Model 4	5660	Transmission cover	Ford	6016
Cylinder head	Chevrolet	756	Generator support		Chevrolet	1491	Reverse idler flange	Maxwell	5660	Transmission cover	Hudson	6016-2718
Cylinder head	Dodge	1491	Governor support		Overland		Rear spring clip	Ford	5660	Transmission cover	Maxwell	5660
Cylinder head	Ford	1620-5660	Head lamp bracket		Maxwell	1491	Reversing gear	Buick	2432	Transmission cover	Overland	
Cylinder head	Hudson	5660	Head lamp bracket		Buick	1491	Reversing gear	Ford	4561		(Model 4)	6084
Cylinder head	Oakland	5660	Head lamp brackets		Essex	1491	Reversing gear	Maxwell	1491	Transmission cover	Oakland	1620
Cylinder head	Overland	62	Head lamp brackets		Hudson	1491	Reversing gear	Ford	4561	Transmission cover	Dodge	941
			Head lamp brackets		Oakland	1491	Reversing connecting rod	Ford	4561	Transmission cover	Chevrolet	2132
Dash brackets to dash	Ford	1620	Head lamp brackets	Overland	(Model 4)	6084	Spindle pivot	Buick	2418	Transmission support	Hudson	1881
Demount. Rims (Firestone)	Maxwell	1491	Hub brake rod support		Ford	1620	Spindle pivot	Overland	(Model 4)	5660		
Demountable Rims (Kelsey)	Essex	120	Hub brace		Dodge	1620	Spindle pivot		Buick	4561	Universal ball cap	Ford	2716
Demountable Rim Clamp	Hudson	120	Hub bolt		Chevrolet	1491	Spindle pivot		Oakland	4561	Universal joints	Buick	1881
Differential cover	Overland	756	Intake manifold to cylinder				Spring eye pivot		Overland		Universal joints	Hudson	1620
Differential drive gear	Ford	6061	Intake manifold to cylinder		Buick	6016	Spring clips front axle		(Model 4)	5660	Universal joints	Maxwell	1620
Differential gear	Hudson	2625	Intake manifold to cylinder				Spring clip front axle		Buick	2432	Universal joints	Overland (Model 4)	1620
Differential front bearing lock nut	Maxwell	2716	Intake manifold to cylinder		Chevrolet	491	Spring clip front axle		Essex	1620	Universal joint housing support	Dodge	2132
Differential housing front	Hudson	2432	Intake manifold to cylinder		Oakland	1491-5660	Spring clips front axle		Maxwell	1491			
Differential housing front	Dodge	1881					Spring clips front axle		Oakland	2432			
Differential housing front	Buick	1620-6016	Magneto		Ford	2716-6016	Spring clips front axle		(Model 4)	5660	Valve brackets	Buick	5064
Differential housing rear	Essex	1620	Main bearing		Buick	2432	Spring clip front axle		Hudson	5660	Valve tappet cover	Buick	6084
Differential housing rear	Oakland	1620	Main bearing		Dodge	1620	Spring clip front axle		Maxwell	1620	Valve tappet support	Essex	1881
Differential housing rear	Buick	1620	Main bearing		Hudson	1491	Spring clips rear axle		Overland				
Differential housing rear	Essex	1881	Main bearing		Maxwell	1491	Spring clips rear axle		(Model 4)	5660	Water circulator pipe	Ford	1620
Differential housing rear	Oakland	1491	Main bearing		Oakland	1491	Spring clips rear axle		Maxwell	2432	Water circulator pipe	Maxwell	1620
Differential housing rear	Overland		Main bearing		Chevrolet	1491	Spring clips rear axle		Overland		Water circulator O ring	(Model 4)	2716
	Model 4	5661	Main bearing		Dodge	1491	Spring clips rear axle		(Model 4)	5660	Water pump	Buick	1620
Differential housing split	Oakland	1491	Main bearing		Hudson	1491	Spring clips rear axle		Maxwell	1491	Water pump cover	Buick	1620
Differential housing split	Hudson	1881	Main bearing front		Maxwell	1491	Spring clips rear axle		Oakland	1491	Water pump cylinder outlet	Oakland	1881
Differential split	Chevrolet	1881	Main bearing front		Oakland	1491	Spring clips rear axle		Dodge	1620	Water pump	Hudson	1620
Differential split	Maxwell	2716-5660	Main bearing front		Buick	1491	Spring clips rear axle		Buick	5660	Water pump support	Hudson	2716
Differential support	Hudson	5660	Motor support front		Dodge	2432	Spring pocket to housing		Oakland	1620	Water pump	Maxwell	1620
Driveshaft roller bearing	Ford	2732	Motor support front		Hudson	2432	Spring pocket to housing		Buick	5660	Water pump support		2716
					Maxwell	1620	Spring shackle bolt		Essex	5432	Wrist pin	Buick	1881
					Oakland	1620	Spring shackles front		Hudson	5660	Wrist pin	Maxwell	1881
					Overland (Model 4)	5660							

"MOSSBERG" SOCKET CHEST.



Socket wrenches have come to be so very standard that the dealer is missing an excellent opportunity today if he does not provide for the constantly growing business in this line.

To enable the dealer to increase his business on socket wrenches, Mossberg Company has carefully arranged No. 300 Chest of Drawers to be offered free for as long as he shall utilize it to sell Mossberg Wrenches.

Why not build up the trade which is asking for more parts to add to sets already purchased, or replacements for lost units, or customers desiring special sizes?

There is more than ordinary profit to the dealer in stocking No. 300 Set, and we can surely prove this to the satisfaction of any dealer upon application.

This particular assortment of sockets and handles has been carefully made up from a year's record of sales, and the quantity of each unit is in direct proportion to its demand. Empty kits are included in the assortment for containers of special sets made up from this stock.

No 300 Chest is a beautifully finished store fixture made of selected chestnut and is 14¾ inches high, 21 inches wide, 12½ inches deep, with eight drawers.

No 300 Assortment includes

330	Regular Guaranteed "M" Pressed Steel Sockets, Rust Proof, assorted sizes, at.....	$2.16 per dos.	$54 00
21	Pressed Steel Spark Plug Socket Wrenches, assorted	.32 each	6.72
4	No. 350 Reverse Ratchet Socket Handles...	2.50 each	10.00
4	No. 356 Ratchet Handles	1.25 each	5.00
4	No. 822 Double End Offset and Vertical Handles	.35 each	1.40
4	No. 340 Take-down T Handles.....	.50 each	2.00
4	No. 366 Universal Joints	.55 each	2.20
4	No. 351 Extension Tubes	.60 each	2.40
5	Canvas Tool Rolls, circulars, etc.....	No charge	
350	Units		

	Net Per Set
NO. 300—Chest complete with full assortment and chest	$133.00
NO. 1000—Chest complete, with 41 tools.....	70.00

FOR EXTRA PARTS, SEE NEXT PAGE.

Prices and Quality entitle us to your **FORD** Radiator orders.

For Nearly a Century the Store of Service.

BLACKHAWK WRENCHES AND SOCKETS

COMBINATION SET No. 4

This set will cover all standard nuts and bolt heads

Set contains the following:
7 Hex. machined sockets, sizes [illegible], 5/16, 3/8, 7/16, 1/2, and [illegible] inches
1 Sq. machined socket, size 3/8 inch.
1 9-inch Ratchet wrench.
1 Universal joint.
1 Extension bar, 8-inch
Packed in a wooden box

Price, No. 4 Set ..each 8 75

COMBINATION SET No. 2

A small but handy set for automobile, motorcycle etc

Set contains the following:
6 Hex. machined sockets, sizes 1/2, 9/16, [illegible] inches
1 [illegible] handle
1 Extension bar, 6-inch
Packed in a wooden box

Price, No 2 Set ..each 3 50

STEEL SOCKETS
HEXAGON AND SQUARE

Extra strong steel sockets machined from the sound bar steel. Accurately broached 1/64-inch oversize insuring perfect fit. Heat treated and Parker rust proof finish. Each socket is guaranteed. Order by stock number.

SIZES BELOW ARE BOLT OR SCREW SIZES

TABLE OF HEXAGON SOCKETS

NO.	SOCKET SIZES	U S S. NUTS SIZE BOLT	HEX HEAD CAP SCREWS U S STD	b A.E.STD NUTS & CAP SCREWS	A. L. A. M.	HEX HEAD BOLT HEAD	HEX HEAD SETSCREWS	COACH SCREWS
14	7-16	.....	1-4	1-4	.....	.....	7 16	.....
16	1-2	1-4	5- 6	5-16	5 16	.....	1 2	.....
18	9-16	.....	3-8	3-8	3-8	3-8	9-16	.....
19	19-32	5-16	.....	.....	.....	.....	.....	3-8
20	5 8	.....	7-16	7-16	.....	.....	5 8	.....
22	11-16	3-8	.....	.....	7-16	.....	.....	.....
24	3 4	.....	1-2	1-2	1-2	1-2	3 4	1-2
25	25 32	7-16	.....	.....	.....	.....	.....	.....
26	13-16	.....	9 16	.....	.....	.....	.....	.....
28	7 8	1-2	5-8	9-16	9-16	.....	7 8	.....
30	15-16	.....	.....	5-8	5-8	5-8	.....	5-8
31	31-32	9-16	.....	.....	.....	.....	.....	.....
32	1	.....	3-4	11-16	11-16	.....	1	.....
34	1 1-16	5-8	.....	3-4	.....	3-4	.....	.....
36	1 1-8	.....	7-8	.....	3-4	.....	1 8	3 4
40	1 1-4	3-4	1	7-8	7-8	.....	1 4	.....

TABLE OF SQUARE SOCKETS

NO.	SIZE OPENING	SQ HEAD SET SCREW	SQ HEAD U S S. CAP SCREWS	SQ HEAD U S S NUT BOLT SIZE
014	14-32	7-16	5-16	.....
016	1-2	1-2	3-8	1-4
018	9-16	9-16	7-16	.....
019	19-32	.....	.....	5-16
020	5-8	5-8	1-2	.....
022	11-16	.....	9-16	3-8
024	3-4	3-4	5-8	.....
025	25-32	.....	.....	7-16
028	7-8	7-8	3-4	1 2
034	1 1-16	.....	.....	5-8
041	1 9-32	1 1-4	1	3-4

GUARANTEED BROACHED STEEL SOCKETS

All wrenches and parts are packed 10 to a package Prices upon application

BLACKHAWK WRENCHES

No. 10 COMBINATION WRENCH SETS

Combination wrench sets are furnished for automobile, machinists, engineers, tractors, aeroplanes, garage and service station use.

They are made of the very best material throughout. The sockets are machined from the solid steel bar and properly tempered. The openings of all sockets are accurately broached ¼-inch oversize, insuring perfect fit and unlimited service.

The No. 10 set, as illustrated above, is very complete and will enable the user to reach nuts difficult of access or in cramped quarters, where the ordinary type of wrench is out of the question. All tools finished with the Parker rust-proof process which insures against rust. The No. 10 set contains the following: 9-inch ratchet wrench, 2 extension bars, pipe wrench, brace wrench, universal joint, 2 spark plug sockets, 5 open end thin wrenches, pliers, combination tee and offset handle, double end screw driver, valve grinding attachment, cotter pin tool, 16 hexagon sockets sizes [illegible] ½, ⅝, ¾, [illegible] ⅞, 1, 1⅛, 1¼-inch and 11 square machined steel sockets, sizes [illegible] ⅜, ½, ⅝, [illegible] ¾, [illegible] ⅞, 1-inch. The set is packed in heavy wooden box, with hinged cover. Finished in mahogany.

Price, No. 10, Set..... each 25 00

No. 8 SETS

A complete set with ratchet wrench, sockets, extension bars, etc. Designed for garage or shop use. Guaranteed machined steel sockets.

Set contains the following:

16 Machined steel hex. sockets, sizes ⅜ to 1¼-inches inclusive.
3 Machined steel sq. sockets sizes ⅞, 1, 1⅛ inches.
Ratchet wrench 9-inch handle
2 Extension bars, 6 and 10 inches long
1 Universal joint.
6 Open end wrenches
1 Combination tee and offset handle
1 Spark plug socket double end, packed in wooden box.

Price, No. 8 Set ..... each 17.00

No. 6 SETS

Set contains the following

15 Hex. machined steel sockets, sizes [illegible] to 1¼ inches inclusive
1 [illegible]-inch ratchet wrench
1 Universal Joint
1 8-inch extension bar
1 Combination tee and offset handle. Packed in wooden box

Price, No. 6 Set..... each 12 00

Write us Your Requirements for Goods Not Listed.

For Nearly a Century the Store of Service.

BLACKHAWK WRENCHES

No. 360 DISPLAY SET

No. 360 SET CONTAINS

60-Tee Handle Wrenches 12-inch Shank
60 " " " 6 " "
60 Offset Wrenches, 7-inch Handle

Price, Complete .....per set 108.00

GENERAL SERVICE WRENCHES

LONG TEE HANDLE 12-INCH SHANK

No	Size Inches
3111	
3116	
3118	
3119	
3120	
3122	
3124	
3125	
3126	
3128	

Price each .65

SHORT T 6-INCH SHANK

No	Size Inches
2111	
2116	
2118	
2119	
2120	
2122	
2124	
2125	
2126	
2128	

Price each .60

OFFSET WRENCH 7-INCH HANDLE

No	Size Inches	No	Size Inches
1114		1122	
1116		1124	
1118		1125	
1119		1126	
1120		1128	

Price .....each .55

Hex. Head	in.						
Fits Cap Screw	"						
" A L A M	"						
" U S S Nut	"						
Hex Head	in.						
Fits Cap Screw	"						
" A L A M	"						
" U. S. S. Nut	"						

BLACKHAWK WRENCHES

THE No. 50 STOCK CABINET AND PARTS WHICH IT CONTAINS

THE No. 50 STOCK CABINET

Given free with assortment of combination wrench parts. A most complete stock set

Cabinet is 21 inches high, 18 inches wide and 11 inches deep; each drawer arranged with compartments for the different size sockets, as well as for other items contained in cabinet

With this stock cabinet, wrenches can be supplied for all kinds of work, whether for garage or service station, manufacturer or farmer

Cabinet contains:

HEXAGON SOCKETS

12 ea 8 sizes 14 to 25
6 " 8 " 26 " 40
144 Total No. of Hex. sockets.

SQUARE SOCKETS

6 ea 5 sizes 014 to 020
3 " 6 " 022 " 041
48 Total No. of Sq sockets.
4 ea. 4-B, 6-B, 8-B Bit shanks
12 T-4 Offset and tee handles
4 ea. T-6, T-8, T-10 Extension bars
6 T-2 Universal joints
6 T-5 Offset handles
6 T-7 Canvas rolls
3 ea 3329-3731 Spark plug wrenches
6 911 Ratchet wrenches

Price, No. 50 Cabinet.....each 138.50

PARTS CONTAINED IN No. 50 CABINET

MACHINED STEEL SOCKETS

EXTRA STRONG

Hex. or Sq. machined sockets

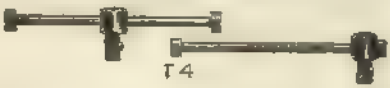
Price, Nos. 14 to 22 and 014 to 019.....each .30
Price, Nos 24 to 30 and 020 to 028 .45
" " 31 " 40 " 034 " 041
.....each .55

No. 911 RATCHET WRENCHES

9-INCH HANDLES

Price, No. 911.....each 2.50

No. T-4 OFF AND TEE HANDLES



Price .....each .55

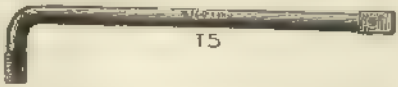
EXTENSION BARS

Price, No. T-6, 6-inch.....each .45
" " T-8, 8 " " .50
" " T-10, 10-inch " .60

BIT SHANKS

Price, No. 4-B, 4-inch .....each .50
" " 6-B, 6 " " .55
" " 8-B, 8 " " .60

No. T-5 DOUBLE END HANDLES



Price, No. T-5.....each .60

Write us Your Requirements for Goods Not Listed.

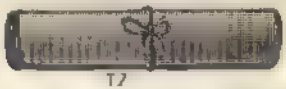
For Nearly a Century the Store of Service.

BLACKHAWK WRENCHES

No. T-2 UNIVERSAL JOINTS

Price, No. T-2 ..... each **1.30**

No. T-7 CANVAS TOOL ROLLS

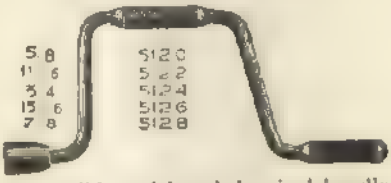


Price, No. T-7..... .each **.60**

SPARK PLUG SOCKETS

Price, No. 3329, $\frac{13}{16}$x1$\frac{1}{16}$-inch, each **.55**
" " 3731, $\frac{13}{16}$x1$\frac{1}{16}$- " " **.55**

DEMOUNTABLE RIM BRACE SOCKET WRENCHES



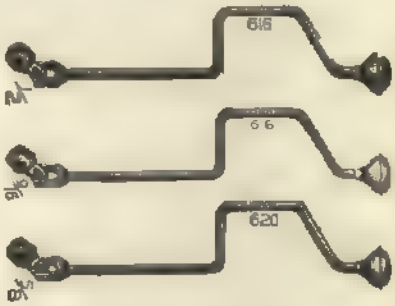
Has solid steel knurled swivel handles. Parker rust proof finish.

Price, No. 5120, $\frac{5}{8}$-inch Fits Kelsey Jaxon Rims ..... each **1.25**
Price, No. 5122, $\frac{3}{4}$-inch Fits Firestone Den. Goodrich, Firestone each **1.25**
Price, No. 5124, $\frac{7}{8}$-inch Fits Baker, Columbia, Detroit Electric Stan. Weld, Goodyear . . . . . .each **1.25**
Price, No. 5126, $\frac{15}{16}$-inch Fits Stan. Weld No. 2, Universal each **1.25**
Price, No. 5128, 1-inch Fits Fisk Tires..... .each **1.25**
5120 for Ford Rims . **1.00**

No. 600 BRACE WRENCHES

For use with combination parts.
Price . . . . . each **1.25**

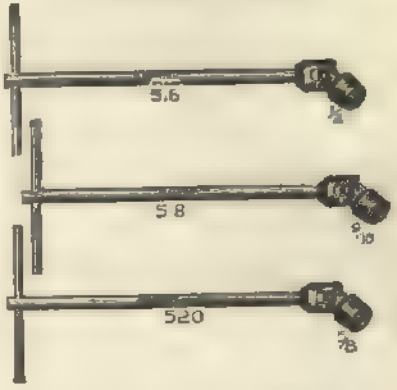
SPEEDERS WITH UNIVERSAL JOINTS



May be applied in many places where the ordinary steel speeder cannot be used to advantage

Price, No. 616, $\frac{5}{16}$-inch . . . each **3.00**
" " 618, $\frac{3}{8}$- " " **3 00**
" " 620, $\frac{7}{16}$- " . . . . " **3.00**

TEE SOCKET WRENCHES WITH UNIVERSAL JOINTS

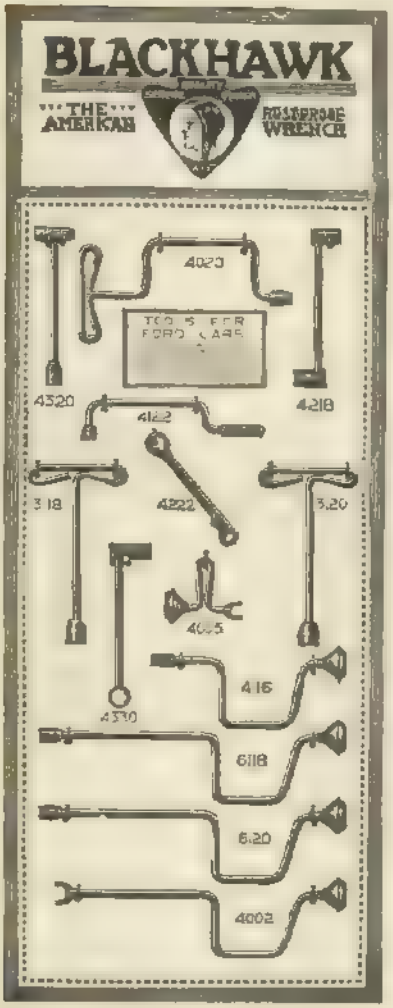


Designed and made particularly for garage and service work. Will save time in doing work as they will fit places where a particular style of wrench is needed. Every wrench guaranteed.

Price, No. 516, $\frac{5}{16}$-inch ..each **2.50**
" " 518, $\frac{3}{8}$- " " **2.50**
" " 520, $\frac{7}{16}$- " " **2.50**

BLACKHAWK WRENCHES

No. 400 DEALERS DISPLAY SET OF WRENCHES USED ON FORD CARS



Blackhawk Tools are made to fit, and will give efficient service and wear.

Every tool is guaranteed. Repair men want tools that will speed up their work, and Blackhawk Tools will do it.

The display board as illustrated is most attractive and is an asset to any store. The face is made of sheet steel, handsomely lithographed, which makes it a permanent fixture

Given free with assortment of wrenches as listed below

The tools on No. 400 display board consist of six of each style and [illegible] Ford cars by the owners or repairmen.

The No. 400 set contains the following wrenches.

6-No. 4020 Connecting Rod Wrenches
6 " 4320 Handy Socket Wrenches
6 " 4218 Triple Socket Wrenches
6 " 4222 Transmission Band Wrenches
6 " 4122 Hub Wheel Cap Screw Wrenches
6 " 3118 Long Tee Handle Wrenches
6 " 3120 " " " "
6 " 4330 Heavy Triple Socket Wrenches
6 " 4116 Short Spec[illegible]
6 " 4003 Short Valve Grinders
6 " 4002 Long " "
6 " 6[illegible] Speed Wrenches
6 " 6120 " "

Price No. 400 Display Board each **66 00**

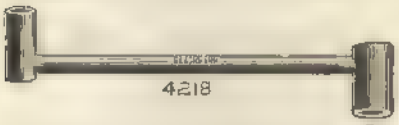
Write us Your Requirements for Goods Not Listed.

For Nearly a Century the Stove of Service.

BLACKHAWK TOOLS

FOR USE ON FORD CARS

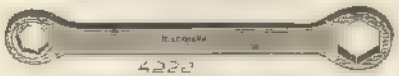
No. 4218 HAMMER HEAD DOUBLE SOCKET WRENCH



Sizes of sockets $\frac{9}{16}$ and $\frac{3}{4}$-inch. Fits crankshaft (main) bearing nuts, steering gear post and bracket, brake shoe support, spindle bolt and nut, fan bracket, radius rods ball joint nuts, timer support arms, lamp bracket nut and other uses

Price ..... each 80

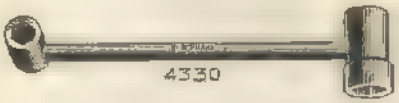
No. 4222 TRANSMISSION BAND WRENCH



Especially designed for transmission bands (brake and reverse) using ratchet end $\frac{1}{2}$-inch opening, $\frac{9}{16}$-inch box opening. Very best wrench for use on Champion X Spark Plugs. No slipping off and breaking the porcelain of the plug.

Price ..... each 1.20

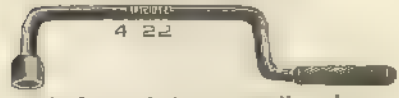
No. 4330 EXTRA HEAVY TRIPLE SOCKET WRENCH



Sizes of sockets $\frac{11}{16}$, $\frac{7}{8}$ and $\frac{15}{16}$-inch. Fits spindle arm and body bolt nut, rear axle front spring clip nut, rear hub lock nut, hub bolt and nut, drive shaft pinion nut, and radius rod bolt and nut.

Price..... each 1.25

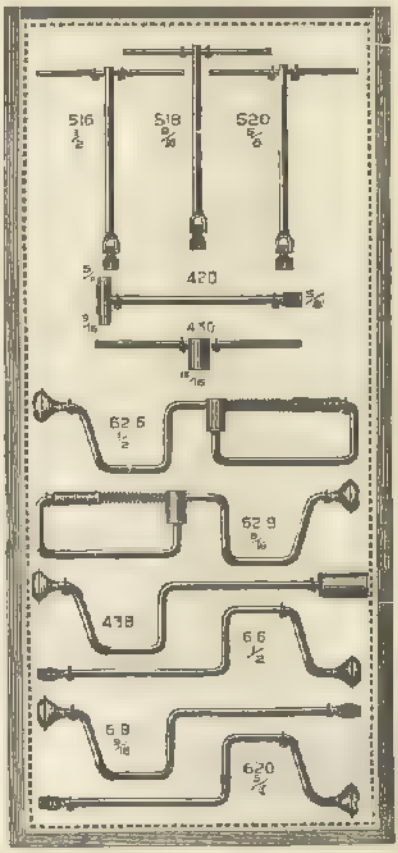
No. 4122 FLY-WHEEL CAP SCREW WRENCH



$\frac{11}{16}$-inch socket, especially designed to properly perform its duty. Saves labor and money.

Price..... each .70

No. 700 DISPLAY BOARD



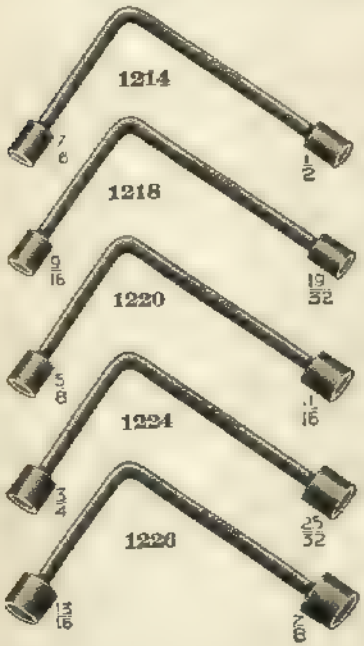
Set contains the following tools:

6-No. 516 Univ. Tee Handle Wrenches
6- " 518 " " " "
6- " 520 " " " "
6- " 420 Handy Univ. Joint "
6- " 430 Pinion Gear Nut "
6- " 6216 Improved Speed "
6- " 6218 " " "
6- " 438 Cam Gear Lock Nut "
6- " 616 Univ. Joint Speed "
6- " 618 " " " "
6- " 620 " " " "

Price No. 700 Complete.. each 179 00

BLACKHAWK WRENCHES

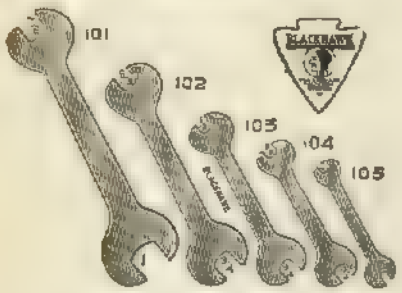
No. 1200 SET L SOCKET WRENCHES



Made strong and adaptable to many places where a tee or speed wrench could not be used.

Price, Complete.....per set 4.00
" Each..... .80

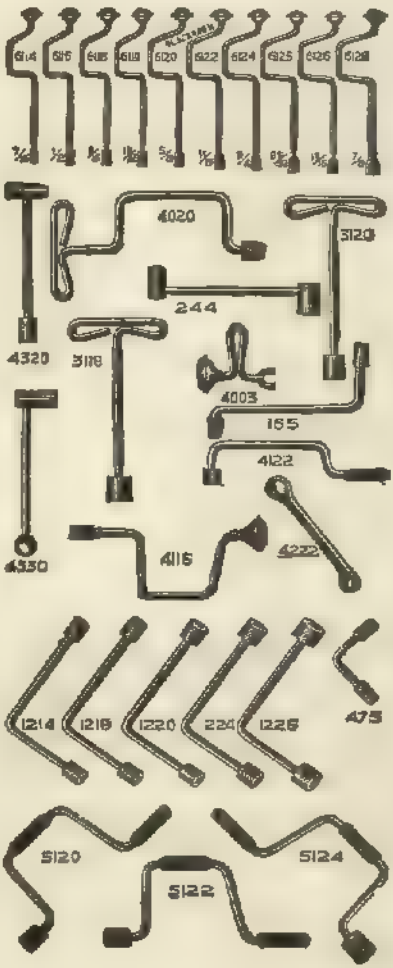
No. 100 SET OPEN END STEEL WRENCHES



These wrenches are stamped, made from special steel and properly tempered.

Price, Complete.....per set 2.00

BLACKHAWK SET No. 43



A complete and necessary set of socket wrenches for use in a garage or service station. There are no two sizes of sockets on the same style handle. Will fit many places and on many different makes of cars. The set contains 30 tools packed in a wooden box.

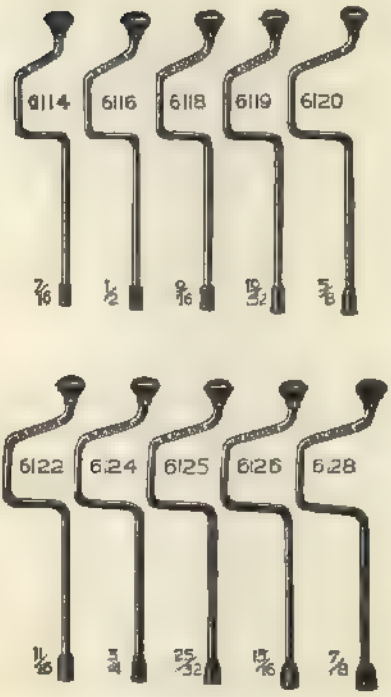
Price, Complete. .....per set 26.75

Write us Your Requirements for Goods Not Listed.

For Nearly a Century the Store of Service.

BLACKHAWK WRENCHES

No. 6100 SPEEDERS SETS



Speeders Wrenches have become popular, owing to the speed obtained in taking down and assembling motor cars, trucks, tractors, etc., and are found in practically every garage

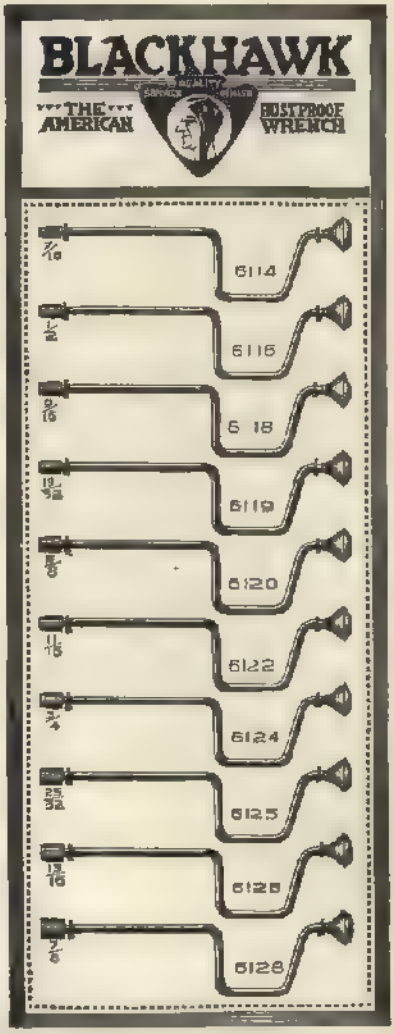
Blackhawk Speeders are made heavy, with hardened sockets, steel knobs, handles and Parker rust proof finish.

Look for the name Blackhawk when ordering socket wrenches.

Please use the stock numbers when ordering.

Price, Complete .....per set **9 90**

No. 600 SETS



The No 600 Set contains 10 each size speeders as shown on the display board. The display board is given free with assortment of Blackhawk Speeders

Price, Set Complete.... per set **90.00**

BLACKHAWK WRENCHES

PROPER WRENCHES FOR USE ON FORD CARS

Part	Wrench Number
Axle Housing Bolt and Nut	4116–4320–6216–516–616
Brake and Rev. Sup. Nut and Bolt	3120–6120–520–420
Brake Shoe Sup. Nut	4218
" " " Bolt	520–3120–6120–420
" Band	4222
Clutch Lever and Release Fork Screws and Nuts	518–6118–618–3118
Cylinder Cover Cap Screws	6118–618–518–3118
" Head " "	6120–620–420–520–4320
" " Inlet Con. Screws	4320
" " Outlet " "	4320
" Valve Cover Nut and Stud	518–3118
" Cover Bolt and Nut	618–6118–518–3118
Cam Gear Lock Nut	438
Crank Case Lower Cover	4116–4320–516–3116
" Shaft Bearing Nuts, Center Front and Rear	4218
" Case Arm Bolt and Nut	3118–518–1218
Connecting Rod Clamp Screws	4218
" Rods Including 4th	4020–4120–520–420
Differential Case Stud and Nuts	4320
" Drive Gear Screws	516–4116–4320
Drive Shaft Pinion Nut	430–4330
" " Roller Bearing Nuts	4320
Fan Bracket Bolt	4218
" Adj. Screw and Nut	518–3118–6118–618
Fly Wheel Cap Screw Nuts	4122
Fender Iron Bolt and "	4116–616–516–4320
Front Spring Clip Nut	4330
" " Tie Bolt and Nut	4320
Hub Bolt and Nut	4330
Lamp Bracket Nuts	4218
Inlet and Exhaust Clamp Stud and Nuts	6118–618–518–3118
Magnet Bolt	618–6118–518–3118
Main Bearing Nut	4218
Muffler Bracket Bolts and Nuts	6118–618–518–3118
" Rod Nuts	4116–616–4320
Radius Rod Ball Joint	618–420–3118
Radiator Stud Nuts	1218–3118–618–518
Radius Rod Bolt and Nut	4330
Rear Spring Clip Nut	4330
Reverse Band	4222
Running Board Bolt and Nuts	4320
Slow Speed Connecting Lock Nut	4222
Spindle Arm Nut	4330
" Bolt and Spindle Bolt Nut	4218
" Connection Rod Bolt	4218
Steering Arm Nut	1224–3125
" Gear Post Nut	6124–4218–3124
" Post Bracket	618–518–1218–6118
Transmission Band Adj. Screws	4222
" " " Screw Nut	6118–618–3118
Timer Case Support Bolt	4218–3118–518
Transmission Cover Bolt and Nut	618–518–6118–3118
Universal Ball Cap Screw	518–3118

Write us Your Requirements for Goods Not Listed.

DRAWING KNIVES.

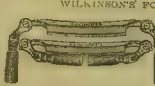
BAY STATE* RAZOR BLADES

Blades Forged from Tool Steel, Tempered and Polished; Polished Steel Ferrules and Caps; Tangs extend through Ferrules, Handles and Caps, and Riveted at Ends; Polished Hardwood Handles; Width of Blades 1¼ in.; Length of Handles 5 in.

Nos.	H8	H9	H10
Length of Blade, inches	⅞	1	1⅛
Weight per dozen about, lbs	13	14	15
Per dozen	$29.10	30.90	32.40

One-half Dozen in a Cardboard Box.

WILKINSON'S FOLDING HANDLE.

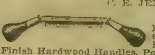


Razor Blade, Forged from Tool Steel, Oil Tempered, Polished and Sharpened; Oil Finished Hardwood Handles; Polished Steel Shanks; Tangs extend through Handles and Riveted at Ends; Handles Have Folding Adjustment, secured by Heavy Polished Steel Clamping Screw and Bolt. Width of Blades 1¼ in.; Length of Handles 4¾ in.

Nos.	WS	WB
Length of Blade, inches	⅞	1
Weight per dozen about, lbs	21	25
Per dozen	$36.70	37.80

One-quarter Dozen in a Cardboard Box.

C. E. JENNINGS.



Blades Forged from One Piece Special Tool Steel, Oil Tempered, Highly Polished and Sharpened; Ebony Finish Hardwood Handles, Polished Steel Ferrules; Tangs extended into Handles and are fastened with a Patent Device

Per Dozen

No. 48—Length of Blade 4 in.; Length over all 10 in.; Weight per dozen about 4 lbs. $14.90

One-half Dozen in a Cardboard Box

COOPERS' FROES.

Soft Steel Body, Adze Eye, with Tool Steel Laid Cutting Edge, Oil Tempered.

PITTSBURG, BOARD—Axe Finish, Painted Back; Polished Edge.

Nos.	4510	4512
Length of Cut, inches	10	12
Width, inches	2½	3½
Weight per dozen about, lbs	32	39
Per dozen	$22.40	24.00

Two Dozen in a Case

FANCY WOOD PLANES.

EACH PLANE CUTS ONLY ONE SIZE

BEECHWOOD, PLAIN FINISH; Cutters Forged from Tool Steel, Tempered and Polished

SKEW RABBET.

Nos.	146¾	146 1	146/1¼
Size, inches	¾	1	1¼
Wgt. abt. lbs.	1	1¼	1½
Each	$2.10	2.10	2.25

NOSING, TWO IRONS.

Nos.	113/1	113 1¼	113/1¼
Size, inches	1	1¼	1¼
Each	$2.60	2.80	3.20

Weight Each about 1½ lbs

Packed Loose.

BENCH PLANES.

KEEN KUTTER*

SELECTED AND SEASONED BEECHWOOD, FINELY VARNISHED; Polished Black Walnut Knobs; Double Cutters Forged from Highest Grade Tool Steel, Oil Tempered, Upper Half of Bits Full Polished, Lower Half, Dull Black Finish, Sharpened and Warped on an Oil Stone for Hand Planing; Pitch 45°.

Each

No. 188—SMOOTH; Length 8 in.; Size of Cutters Assorted 1¾ and 2¼ in.; Weight each about 2 lbs. $3.40

Each

No. 518—HANDLED, SMOOTH; Length 9½ in.; Size of Cutters, Assorted, 2 2⅜ and 2¾ in.; Wgt. each about 2¾ lbs. $5.50

Each

No. KJ—JACK; Length 15 in.; Size Cutters, Assorted, 2⅛ and 2⅜ in.; Weight each about 5 lbs. $3.80

Each

No. KF—FORE; Length 20 in.; Size of Cutters, Assorted 2⅜ and 2⅝ in.; Weight each about 6½ lbs $6.40

Each

No. KF2⅜—JOINTER; Length 26 in.; Size of Cutters, Assorted, 2⅜ and 2⅝ in.; Weight each about 7 lbs. $7.30

One in a Cardboard Box.

"OAK LEAF"

SELECTED AND SEASONED BEECHWOOD, PLAIN FINISH; Lignum-Vitae Starts; Double Cutters, Forged from Special Tool Steel, Oil Tempered, Upper Half of Bits Full Polished, Lower Half Dull Black Finish and Sharpened.

No. 28—SMOOTH Length 8 in., Size of Cutters, Assorted, 2 2⅜ and 2¾ in.; Weight each about 2½ lbs. ..... Each, $2.70

No. 5—JACK; Length 14 in.; Size of Cutters, Assorted, 2⅜ and 2¾ in.; Weight each about 4½ lbs. ..... Each, $3.30

No. 5F—FORE, Length 22 in.; Size of Cutters, Assorted, 2⅜ and 2¾ in.; Weight each about 6 lbs. ..... Each, $5.50

Each

No. 5F2⅜—JOINTER; Length 26 in.; Size of Cutters, Assorted, 2⅜ and 2¾ in.; Weight each about 8 lbs. $5.90

Wrapped in Heavy Paper; One in a Package.

We want to handle your MAIL ORDERS in just the way you want them handled.

We give you the same low prices on MAIL ORDERS as made by our salesmen.

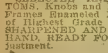
ADJUSTABLE PLANES.

KEEN KUTTER® WOOD BOTTOM.

KEEN KUTTER Planes are Packed One in a Cardboard Box

SELECTED AND SEASONED BEECHWOOD BOTTOMS, Knobs and Handles, Finely Varnished; Cast Iron Frames Enameled Black, Japanned Cans; Cutters Made of Highest Grade Tool Steel, Oil Tempered, Polished, SHARPENED AND WHETTED ON AN OIL STONE BY HAND, READY FOR USE, Finest Screw and Lever Adjustment.

SMOOTH, WOOD BOTTOM.

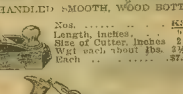


Each

No. K34 Length 3 in.; Size of Cutter 2 in.; Weight each about 3¼ lbs. $6.50

HANDLED SMOOTH, WOOD BOTTOM

Nos.	K35	K36
Length, inches	7	9
Size of Cutter, inches	2	2½
Wgt each about lbs.	3¼	4¼
Each	$7.00	$ 8.00



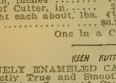
WOOD BOTTOM.

Nos.	K26	K28	K31	K32
Style	JACK	FORE	JOINTER	JOINTER
Length, inches	15	18	24	28
Size of Cutter, in.	2	2¼	2⅜	2⅜
Weight each about, lbs.	4½	6¼	7½	9
Each	$6.20	8.40	9.10	10.90

One in a Cardboard Box.

KEEN KUTTER® IRON.

FINELY ENAMELED CAST IRON FRAMES; Bottoms Perfectly True and Smooth; Mahogany Finish Handles and Knobs; Japanned Cans; Cutters Made of Highest Grade Tool Steel, Oil Tempered, Polished SHARPENED AND WHETTED ON AN OIL STONE BY HAND, READY FOR USE; Finest Screw and Lever Adjustments.



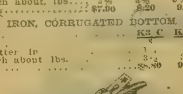
Corrugated Bottom.

SMOOTH IRON, SMOOTH BOTTOM.

Nos.	K2	K3	K4	K4½
Length, in.	7	9	9	11
Size of Cutter, in.	1¾	2	2	2⅜
Weight each about, lbs.	3¾	5½	5¾	7½
Each	$7.00	8.20	9.00	10.30

IRON, CORRUGATED BOTTOM.

Nos.	K3 C	K4 C	K4½ C
Length, in.	9	9	11
Size of Cutter in	2	2	2⅜
Weight each about lbs.	5¾	5¾	7½
Each	$8.80	9.70	11.40



SMOOTH IRON, SMOOTH BOTTOM

Nos	K5	K5½	K6	K7	K8
Style	JACK	JACK	FORE	JOINTER	JOINTER
Length, in.	14	15	18	22	24
Size Cutter in	2	2¼	2⅜	2⅜	2⅜
Wgt abt. lbs.	4½	6	7½	9½	11½
Each	$10.00	11.60	13.20	14.90	17.50

IRON, CORRUGATED BOTTOM.

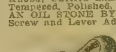
Nos	K5 C	K5½C	K6 C	K7 C	K8 C
Style	JACK	JACK	FORE	JOINTER	JOINTER
Length in	14	15	18	22	24
Size Cutter in	2	2¼	2⅜	2⅜	2⅜
Wgt abt lbs	7	8	9½	11½	13½
Each	$10.80	12.40	14.00	15.70	18.30

One in a Cardboard Box

IRON BLOCK PLANES.

KEEN KUTTER®.

FINELY ENAMELED CAST IRON FRAMES and Cane; Bottoms Perfectly True and Smooth, Mahogany Finish Knobs; Cutters made of Highest Grade Tool Steel; Oil Tempered, Polished, SHARPENED AND WHETTED ON AN OIL STONE BY HAND, READY FOR USE; Finest Screw and Lever Adjustments.



With Screw, Lever and Throat Adjustments; Size of Cutter 1⅝ in.

Each

No. K614—LENGTH 6 IN. $4.70
No. K15 LENGTH 7 IN. 5.00

With Screw, Lever and Throat Adjustments; Nickel Plated Trimmings; Size of Cutter 1⅝ in. Each

No. K16—LENGTH 6 IN. $5.60

Weight each about 1¾ lbs

With Screw, Lever and Throat Adjustments, Mahogany Finish Handle. Size of Cutter 1⅝ in

Each

No. K9—LENGTH 6 IN. Weight each about 1¾ lbs $5.40

KNUCKLE JOINT.

With Screw Lever and Throat Adjustments, Nickel Plated Trimmings; Size of Cutter 1⅝ in

Each

No. K15 LENGTH 6 IN. Weight each about 1¾ lbs $5.80
No. K16—LENGTH 7 IN; Weight each about 1¾ lbs 6.00

With Lever Adjustment; Size of Cutter 1⅝ in.

Each

No. K120—LENGTH 7½ IN. Wgt. each about 1¾ lbs. $5.40

NOT ADJUSTABLE; Size of Cutter 1⅝ in.

Each

No. K110—LENGTH 7¼ IN.; Wgt. each about 1½ lbs. $2.50

With Lever Adjustment; Size of Cutter 1¾ in.

Each

No. K103—LENGTH 5¾ IN.; Weight each about 1 lb. $2.40

NOT ADJUSTABLE; Size of Cutter 1¾ in.

Each

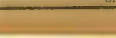
No. K102—LENGTH 5¾ IN. Weight each about 1 lb. $1.80

DOUBLE ENDER.

REVERSIBLE; NOT ADJUSTABLE; Size of Cutter 1⅝ in.

Each

No. K120—LENGTH 8 IN. Wgt each about 2 lbs $3.50



With Screw Adjustment; Size of Cutter 1⅝ in.

Each

No. K220—LENGTH 7½ IN. Weight each about 1¾ lbs. $4.50

One in a Cardboard Box

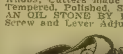
81

IRON BLOCK PLANES.

KEEN KUTTER.*

FINELY ENAMELED CAST IRON FRAMES and Caps, Bottoms Perfectly True and Smooth; Mahogany Finish Knobs, Cutters made of Highest Grade Tool Steel; Oil Tempered, Polished, SHARPENED AND WHETTED ON AN OIL STONE BY HAND, READY FOR USE; Finest Screw and Lever Adjustments.

LOW ANGLE.



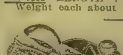
With Screw Adjustments, Nickel Plated Trimmings.

Each

No. K60—LENGTH 6 IN.; Size of Cutter 1⅝ in. Wgt. each abt. 1¾ lbs. $5.20

No. K65—LENGTH 7 IN.; Size of Cutter 1⅝ in Weight each about 1¾ lbs. 6.40

RABBET AND BLOCK.



With Screw Adjustment; Nickel Plated Trimmings; Size Cutter 1⅝ in Right Side Detachable to Change to Rabbet; Cutter Set at a Skew

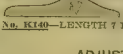
Each

No. K140—LENGTH 7 IN.; Weight each about 1½ lbs. $6.00

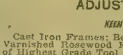
ADJUSTABLE PLANES.

KEEN KUTTER; IRON.*

Cast Iron Frames; Bottoms Perfectly True and Smooth; Varnished Rosewood Knobs and Handles; Cutters made of Highest Grade Tool Steel, Oil Tempered; Full Polished



ROUTER

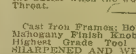


No. K171 Nickel Plated Frame; Length 7½ in.; Two Cutters, Size ⅜ and ½ in Weight each about 2½ lbs. . . Each $6.50

The Cutters can be Clamped to the back of Upright Post and Outside of Stock; in this position THEY WILL REACH INTO CORNERS, rout out mortises or smooth surfaces hard to reach with other tools.

The Small Attachment in cut is furnished with each Plane and can be substituted for the Collar that holds the Cutter when the work requires a Plane with a Closed Throat.

Cast Iron Frames; Bottoms Perfectly True and Smooth; Mahogany Finish Knobs and Handles; Cutters made of Highest Grade Tool Steel, Oil Tempered; Polished, SHARPENED AND WHETTED ON AN OIL STONE BY HAND, READY FOR USE



ROUTER, WITH CLOSED THROAT

Each

No. K171½ — Nickel Plated Frame; Length 7⅛ in.; Two Cutters, Size ⅛ and ¼ in; Weight each about 2 lbs. $6.60

VENEER SCRAPER

Each

No. K242—With Screw Adjustment; Adjustable to Any Angle. Finely Varnished Handles Length 4¾ in.; Size of Cutter 2 in.; Weight each about 3¾ lbs. $11.00

Each

Extra Cutters for No. K242 Scrapers Size 2 in.; Weight each about ¾ lb. $3.10

IMPROVED SCRUB.

Each

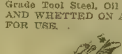
No. K240 — NOT ADJUSTABLE; Length 9¼ in.; Size of Cutter 1½ in.; Wgt. each about 2 lbs. $4.50

This Plane is Particularly Adapted for Roughing down work before using a Jack or other Plane, having a Single Iron with Cutting Edge Rounded.

ADJUSTABLE PLANES.

KEEN KUTTER; IRON.*

FINELY ENAMELED CAST IRON FRAMES; Bottoms Perfectly True and Smooth; Cutters made of Highest Grade Tool Steel, Oil Tempered, Polished, SHARPENED AND WHETTED ON AN OIL STONE BY HAND, READY FOR USE.



CARRIAGE MAKERS' RABBET.

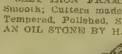
Mahogany Finish Handles and Knobs; Polished Caps. With Screw and Lever Adjustments; Size of Cutter 2¼ in.

Each

No. K141½—Length 9 in.; Weight each about 2½ lbs. $10.80

One in a Cardboard Box

CAST IRON FRAMES; Bottoms Perfectly True and Smooth; Cutters made of Highest Grade Tool Steel, Oil Tempered, Polished, SHARPENED AND WHETTED ON AN OIL STONE BY HAND, READY FOR USE.



CARPET LAYING SPUR

Cast Iron Frame, Finely Enameled.

NOT ADJUSTABLE; Length 8 in.

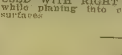
Each

No. K199—Width of Cutter 1⅛ in.; Weight each about 2¾ lbs. $6.00

No. K161—Width of Cutter 1¼ in.; Weight each about 2½ lbs. 5.70

No. K162—Width of Cutter 1 in.; Weight each about 2 lbs. 5.30

Will lie perfectly flat on either side, and CAN BE USED WITH RIGHT OR LEFT HAND equally well, while planing into corners or against perpendicular surfaces



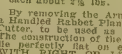
RABBET AND FILLETSTER.

Cast Iron Frame, Finely Enameled

Each

No. K78—Length 8½ in.; Size of Cutter 1⅛ in.; Weight each about 2¾ lbs. $6.70

By removing the Arm to which the Fence is secured, a Handled Rabbet Plane is had, with Two Seats for the Cutter, to be used as a Bull Nose Rabbet as required. The construction of the Stock is such that the plane will lie perfectly flat on either side, and CAN BE USED WITH RIGHT OR LEFT HAND equally well while planing into corners or against perpendicular surfaces.



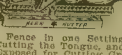
MATCHING

Cast Iron Frame and Handle, Nickel Plated. Mahogany Finish Knobs. Complete with Three Plow Cutters, One Extra Wide to work on Boards Thicker than Plane Works on

Fence in one Setting exposes two Cutters, one for Cutting the Tongue, and when Reversed leaves only one Exposed for Cutting Groove

Each.

No. K70—Length 8 in.; Cuts ⅜ in. Grooves on Boards ⅝ in. to 1¼ in.; Centers on ⅞ in.; Weight each about 4 lbs. $10.80



BULL NOSE RABBET.

Each

No. K75—NOT ADJUSTABLE; Length 4 in., Size of Cutter 1 in.; Weight each about ⅝ lb. $1.50

ADJUSTABLE PLANES.

KEEN KUTTER* IRON.

CAST IRON FRAMES; Bottoms Perfectly True and Smooth; Cutters made of Highest Grade Tool Steel, Oil Tempered, Polished, SHARPENED AND WHETTED ON AN OIL STONE BY HAND, READY FOR USE.

STEEL CIRCULAR.

	Each
No. K145—With Screw and Lever Adjustments; Polished Cape; Length 10 in.; Size of Cutter 1⅝ in.; Weight each about 8¾ lbs.	$15.20

Showing Cutters and Roll with Double Stitched Pockets

COMBINATION.

BEADING, RABBET AND SLITTING COMBINED.

Nickel Plated Cast Iron Frame; Varnished Rosewood Handles; Highest Grade Crucible Steel Cutters, Tempered and Sharpened Ready for Use

	Each
No. K64—Length over all 11 in.; Weight each about 10 lbs.	$27.30

This Plane consists of Two Principal Parts, the Main Stock and the Sliding Section. The Main Stock carries the Handle, Cutter Adjustment, a Slitting Tool; Depth Gauge, and forms a Bearing for One Edge of the Cutter; The Sliding Section Slides on Two Arms Secured in the Stock and has a Bearing for the Other Edge, allowing Cutters of Different Widths to be used. A Fence also Slides on these Arms for use when working as a Plow, Beader or Filletster, to Gauge the Distance from the Cutter to the Edge of the Board, and to keep the Cutter at Right Angles to same when used as a Filletster; The Fence Slides under the Bottom of the Plane and determines the Width of Cutter exposed to the work. The Plane is Fitted with Spurs for dies across the Grain, etc., and can be used either Right or Left Hand. For Beading at a distance from the Edge of a Board, attach Cap Rest to the Front Arm between the Sliding Section and Fence to Prevent the Fence sagging. In certain work attach same to the Rear Arm to Prevent the Plane from Rocking.

One Each of the Following Cutters (21 in all) put up in a Brown Canvas Roll, Pockets Double Stitched, and a No. K50/2 KEEN KUTTER Screw Driver are Furnished with Each Plane.

1½ in Sash Tool—⅛, 3/16, ¼, 5/16, ⅜, 7/16, ½, ⅝, ¾ and ⅞ in Plow and Dado Tool.

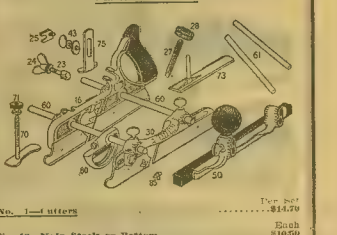
¼ in. Match Tool—⅛, 3/16, ¼, 5/16, ⅜ 7/16 and ½ in Beading Tool.

Slitter Tool—1¼ in. Filletster

One in a Cardboard Box

EXTRA PARTS FOR KEEN KUTTER* PLANES.

EXTRA PARTS FOR KEEN KUTTER* COMBINATION PLANES NO. K64.



	Per Set
No. 1—Cutters	$14.70
	Each
No. 16—Main Stock or Bottom	$10.50
No. 23—Cutter Bolt	.04
No. 24—Cutter Bolt Wing Nut	.03
No. 25—Cutter Bolt Clip and Screws	.24
No. 27—Cutter Bolt Adjusting Screws	.15
No. 28—Cutter Bolt Adjusting Wheel	.12
No. 30—Sliding Section	6.30
No. 50—Left Fence	3.20
	Per Pair
No. 60—Long Arms	$2.00
No. 61—Short Arms	1.00
	Each
No. 70—Adjustable Depth Gauge	$0.84
No. 73—Adjustable Bending Stop	.84
No. 75—Slitting Cutter Stop	.42
No. 86—Cam Stop	1.05
No. 87—Spurs with Screws	.21

Screws Nos. 29, 31, 41, 49, 57, 58, 71, 76, 81 and 88, .42

EXTRA CUTTERS FOR KEEN KUTTER* COMBINATION PLANES NO. K64.

	Size	Style	Each
No. 1	1½ in.	Sash Tool	$2.00
No. 5	¼ in.	Match Tool	2.00
No. 8	—	Slitting Tool	1.26
No. 9	1¼ in.	Filletster	1.05
No. 10	⅛ in.	Plow and Dado Tool	.63
No. 11	3/16 in.	Plow and Dado Tool	.63
No. 12	¼ in.	Plow and Dado Tool	.63
No. 13	5/16 in.	Plow and Dado Tool	.63
No. 14	⅜ in.	Plow and Dado Tool	.84
No. 15	7/16 in.	Plow and Dado Tool	.84
No. 16	½ in.	Plow and Dado Tool	.84
No. 17	⅝ in.	Plow and Dado Tool	.84
No. 18	¾ in.	Plow and Dado Tool	.84
No. 19	⅞ in.	Plow and Dado Tool	1.05
No. 21	⅛ in.	Bending Tool	.63
No. 22	3/16 in.	Bending Tool	.63
No. 23	¼ in.	Bending Tool	.63
No. 25	⅜ in.	Bending Tool	.84
No. 24	7/16 in.	Bending Tool	.84
No. 26	½ in.	Bending Tool	1.05
No. 27	7/16 in.	Bending Tool	1.05
No. 27	½ in.	Bending Tool	1.05

Extra Parts can be Sent by Mail or Express at Slight Cost

By making frequent calls on our Mail Order Department you will be able to keep your Stock complete and up-to-date, and hold your trade at home

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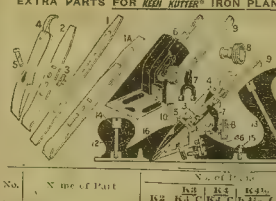
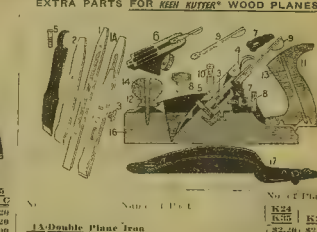
EXTRA PARTS FOR *KEEN KUTTER*® PLANES.

EXTRA PARTS FOR *KEEN KUTTER*® IRON PLANES



No.	Name of Part	No. of Plane				
		K2	K4	K4½	K5	
		K2	K4 C	K4½ C	K5 C	K6 C
1A	Double Plane Iron	$3.80	$3.80	$2.20	$2.20	$2.20
1	Single Plane Iron	1.20	1.40	1.20	1.40	1.20
2	Plane Iron Cap	.60	.70	1.00	1.10	1.00
3	Cap Screw	.22	.22	.22	.22	.22
4	Lever Cap	1.06	1.06	1.06	1.06	1.06
5	Lever Cap Screw	.22	.24	.22	.22	.22
6	Frog Complete	1.46	1.46	1.46	1.46	1.46
7	"X" Adjusting Lever	.22	.22	.22	.22	.22
N	Adjusting Nut	.42	.42	.42	.42	.42
9	Lateral Adj. Lever	.42	.42	.42	.42	.42
10	Frog Screw	.22	.22	.22	.22	.22
11	Plane Handle	.84	.84	.84	.84	.84
12	Plane Knob	.64	.64	.64	.64	.64
13	Handle Bolt and Nut	.42	.42	.42	.42	.42
14	Knob Bolt and Nut	.42	.42	.42	.42	.42
15	Plane Handle Screw	.22	.22	.22	.22	.22
16	Plane Bottom	3.60	4.20	4.20	5.00	5.00
16	Frog Adj. Screw	.22	.22	.22	.22	.22

EXTRA PARTS FOR *KEEN KUTTER*® WOOD PLANES.

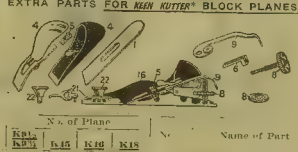


No.	Name of Part	No. of Plane				
		K24				
		K35	K26			
1A	Double Plane Iron	$2.20	$2.20			
1	Single Plane Iron	1.20	1.30			
2	Plane Iron Cap	.90	.90			
3	Cap Screw	.22	.22			
4	Lever Cap	.84	.84			
5	Lever Cap Screw	.22	.22			
6	Frog Complete	1.26	1.26			
7	"X" Adjusting Lever	.22	.22			
N	Adjusting Nut	.42	.42			
9	Lateral Adj. Lever	.42	.42			
10	Frog Screw and Bushing	.42	.42			
11	Plane Handle	.42	.42			
12	Plane Knob	.42	.42			
13	Handle Bolt and Nut	.42	.42			
14	Knob Bolt and Nut	.42	.42			
16	Plane Bottom	1.68	2.10			
17	Top Casting	.84	.84			

No.	Name of Part	No. of Plane				
		K8½	K6	K7	K8	
		K8½ C	K6 C	K7 C	K8 C	
1A	Double Plane Iron	$2.40	$2.50	$2.50	$2.50	
1	Single Plane Iron	1.40	1.50	1.40	1.50	
2	Plane Iron Cap	1.00	1.00	1.00	1.00	
3	Cap Screw	.22	.22	.22	.22	
4	Lever Cap	1.06	1.06	1.06	1.06	
5	Lever Cap Screw	.22	.22	.22	.22	
6	Frog Complete	1.46	1.46	1.46	1.46	
7	"X" Adjusting Lever	.22	.22	.22	.22	
N	Adjusting Nut	.42	.42	.42	.42	
9	Lateral Adj. Lever	.42	.42	.42	.42	
10	Frog Screw	.22	.22	.22	.22	
11	Plane Handle	.84	.84	.84	.84	
12	Plane Knob	.64	.64	.64	.64	
13	Handle Bolt and Nut	.42	.42	.42	.42	
14	Knob Bolt and Nut	.42	.42	.42	.42	
15	Plane Handle Screw	.22	.22	.22	.22	
16	Plane Bottom	5.00	6.80	8.80	12.00	
16	Frog Adj. Screw	.22	.22	.22	.22	

No.	Name of Part	No. of Plane				
		K28	K33	K32	K30	
1A	Double Plane Iron	$2.50	$2.50	$2.60	$2.50	
1	Single Plane Iron	1.50	1.50	1.70	1.50	
2	Plane Iron Cap	1.00	1.00	1.00	1.00	
3	Cap Screw	.22	.22	.22	.22	
4	Lever Cap	.84	.84	.84	.84	
5	Lever Cap Screw	.22	.22	.22	.22	
6	Frog Complete	1.26	1.26	1.26	1.26	
7	"X" Adjusting Lever	.22	.22	.22	.22	
N	Adjusting Nut	.42	.42	.42	.42	
9	Lateral Adj. Lever	.42	.42	.42	.42	
10	Frog Screw and Bushing	.42	.42	.42	.42	
11	Plane Handle	.42	.42	.42	.42	
12	Plane Knob	.42	.42	.42	.42	
13	Handle Bolt and Nut	.42	.42	.42	.42	
14	Knob Bolt and Nut	.42	.42	.42	.42	
16	Plane Bottom	3.60	2.40	3.60	2.10	
17	Top Casting	.84	.84	.84	.84	

EXTRA PARTS FOR *KEEN KUTTER*® BLOCK PLANES.



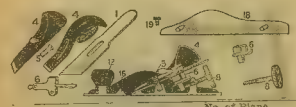
No.	Name of Part	No. of Plane			
		K9½			
		K9½	K15	K16	K18
1	Single Plane Iron	$0.80	$0.80	$0.80	$0.80
4	Lever Cap	.42	.42	.64	.84
5	Lever Cap Screw	.22	.22	.22	.22
7	Adjusting Lever	.22	.22	.22	.22
N	Adjusting Nut	.42	.42	.42	.42
9	Lateral Adj. Lever	.42	.42	.42	.42
11	Plane Handle	1.06	1.06	.....	.....
16	Plane Bottom	2.60	3.16	3.16	3.16
21	Eccentric Plate	.42	.42	.42	.42
22	Finger Rest Knob	.42	.42	.42	.42

No.	Name of Part	No. of Plane		
		K19	K60	K65
1	Single Plane Iron	$0.80	$0.80	$0.80
4	Lever Cap	.80	.60	.80
5	Lever Cap Screw	.22	.22	.22
6	Frog Complete	.42	.42	.42
N	Adjusting Nut	.42	.42	.42
9	Lateral Adj. Lever	.42	.....	.....
16	Plane Bottom	3.10	2.50	3.10
21	Eccentric Plate	.42	.42	.42
22	Finger Rest Knob	.42	.42	.42

All Above Parts can be Sent by Parcel Post

EXTRA PARTS FOR *KEEN KUTTER** PLANES.

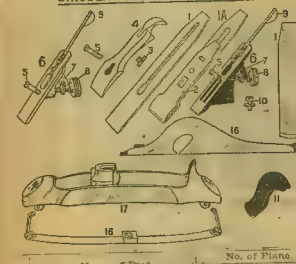
EXTRA PARTS FOR *KEEN KUTTER** BLOCK PLANES.



No.	Name of Part	No. of Plane K102	K103	K110	K120
1	Single Plane Iron	$0.48	$0.48	$0.90	$0.90
4	Lever Cap	.42	.42	.42	.42
5	Lever Cap Screw	....	....	....	....
6	Frog Complete	....	....	....	.66
8	Adjusting Nut	....	....	.42	.42
12	Plane Knob	....	....	.42	.42
16	Plane Bottom	.84	.84	1.05	1.26
18	Detachable Side	....	....	....	....
19	Side Screw (Pair)	....	....	....	....

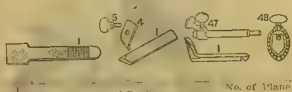
No.	Name of Part	No. of Plane K130	K140	K220
1	Single Plane Iron	$0.70	$0.90	$0.90
4	Lever Cap	.42	.66	.42
5	Lever Cap Screw	....	.22	.22
6	Frog Complete	....	.42	.42
8	Adjusting Nut	.42	.42	.42
12	Plane Knob	.42	.66	.66
16	Plane Bottom	1.46	2.10	1.26
18	Detachable Side	....	1.05	....
19	Side Screw (Pair)	....	.42	....

EXTRA PARTS FOR *KEEN KUTTER** CARRIAGE, CIRCULAR AND SCRUB PLANES.



No.	Name of Part	No. of Plane K101½	K115	K240
1A	Double Plane Iron	$2.16	$1.80	$ ....
1	Single Plane Iron	1.50	1.20	.84
2	Plane Iron Cap	.76	.76	....
3	Cap Screw	.22	.22	....
4	Lever Cap	1.10	1.10	.42
5	Lever Cap Screw	.22	.22	.22
6	Frog Complete	1.18	1.18	....
7	Adjusting Lever	.22	.22	....
8	Adjusting Nut	.42	.42	....
9	Lateral Adj. Lever	.42	.42	....
10	Frog Screw	.22	.22	....
11	Plane Handle	.84	....	.42
12	Plane Knob	.66	....	.42
13	Handle Bolt and Nut	.42	....	.42
14	Knob Bolt and Nut	.22	.22	.42
16	Plane Bottom	7.00	2.50	3.00
17	Top Casting	....	4.20	....
55	Bottom Adj. Screw	....	2.10	....

EXTRA PARTS FOR *KEEN KUTTER** RABBET AND ROUTER PLANES.

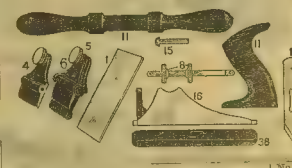


No.	Name of Part	No. of Plane K171	K171½
1	Single Plane Iron	$1.68	$1.68
12	Plane Knob	.66	.66
13	Knob, Bolt and Nut	.42	.42
16	Plane Bottom	3.80	3.80
47	Extra Attachment	1.06	....
48	Collar	1.06	....

EXTRA PARTS FOR *KEEN KUTTER** RABBET, MATCHING AND DADO PLANES.

No.	Name of Part	No. of Plane K178	K190 K192
1	Single Plane Iron	$0.84	$0.84
4	Lever Cap	.42	.42
16	Plane Bottom	4.20	3.80
70	Adj. Depth Gauge	.84	.84
71	Depth Gauge Th. Screw	.42	.66
85	Spurs with Screws	.22	.22

EXTRA PARTS FOR *KEEN KUTTER** SCRAPER AND CHAMFER PLANES.



No.	Name of Part	No. of Plane K272
1	Single Plane Iron	$1.40
4	Lever Cap	1.40
6	Frog Complete	1.50
8	Adjusting Nut	.42
11	Plane Handle	.84
12	Plane Knob	.66
13	Handle Bolt and Nut	.42
14	Knob Bolt and Nut	.42
15	Plane Handle Screw	....
16	Plane Bottom	5.09
38	Extra Wood Bottom	....

All Above Parts can be Sent by Parcel Post.

ADJUSTABLE PLANES.

OAK LEAF®; WOOD BOTTOM.

VARNISHED BEECHWOOD BOTTOMS, Knobs and Handles; Japanned Cast Iron Frames and Caps; Special Tool Steel Cutters, Tempered in Oil; Screw and Lever Adjustments.

SMOOTH, WOOD BOTTOM

Each
No. E24—Length 8 in.; Size of Cutter 2 in.; Weight each about 3 lbs. $5.80

HANDLED SMOOTH, WOOD BOTTOM.

Each
No. E25—Length 10 in.; Size of Cutter 2⅜ in.; Weight each about 4½ lbs. $6.80

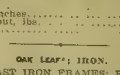
WOOD BOTTOM

Nos.	E26	E28
Style	Jack	Fore
Length, inches	11	18
Size of Cutter, inches	2	2⅜
Weight each about, lbs.	4	6
Each	$6.00	7.70

OAK LEAF®; IRON.

JAPANNED CAST IRON FRAMES; Bottoms True and Smooth; Cherry Stained Hardwood Handles and Knobs, Polished Caps; Special Tool Steel Cutter, Tempered in Oil; Screw and Lever Adjustment.

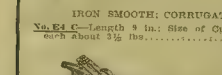
IRON SMOOTH, SMOOTH BOTTOM



Nos.	E3	E4
Length, inches	8	9
Size of Cutter, inches	1¾	2
Weight each about, lbs.	4	6½
Each	$7.50	8.60

IRON SMOOTH; CORRUGATED BOTTOM.

No. E4 C—Length 9 in.; Size of Cutter 2 in.; Weight each about 3½ lbs. . . . . Each, $8.80



Corrugated Bottom

IRON, SMOOTH BOTTOM.

Nos.	E5	E6
Style	Jack	Fore
Length, inches	11	18
Size of Cutter, inches	2	2⅜
Weight each about, lbs.	7	9
Each	$9.70	11.90

IRON, CORRUGATED BOTTOM

Nos.	E5 C	E6 C
Style	Jack	Fore
Length, inches	11	18
Size of Cutter, inches	2	2⅜
Weight each about, lbs.	7	9
Each	$10.90	12.70

One in a Cardboard Box.

IRON BLOCK PLANES.

OAK LEAF®

JAPANNED CAST IRON FRAMES and Caps; Bottoms True and Smooth; Special Tool Steel Cutters, Tempered in Oil.

Each
No. E91½—With Screw, Lever and Throat Adjustments; Length 7 in.; Size of Cutter 1⅝ in.; Weight each about 1½ lbs. $4.20

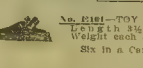
Each
No. E129—With Lever Adjustment; Length 7½ in.; Size of Cutter 1⅝ in.; Weight each about 1½ lbs. $3.10

Each
No. E103—With Lever Adjustment; Length 6⅝ in.; Size of Cutter 1¼ in.; Weight each about 1 lb. $2.20

Each
No. E110—NOT ADJUSTABLE; Length 7½ in.; Size of Cutter 1⅝ in.; Weight each about 1⅝ lbs. $2.20

One in a Cardboard Box.

Each
No. E102—NOT ADJUSTABLE; Length 3½ in.; Size of Cutter 1⅛ in.; Weight each 1 lb. $1.60



Each
No. E101—TOY SIZE; NOT ADJUSTABLE; Length 3⅛ in.; Size of Cutter 1 in.; Weight each about ½ lb. $0.80

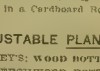
Six in a Cardboard Box

ADJUSTABLE PLANES.

BAILEY'S; WOOD BOTTOM.

VARNISHED BEECHWOOD BOTTOMS, Knobs and Handles; Japanned Cast Iron Frames and Caps; Tempered and Polished Tool Steel Cutters; Screw and Lever Adjustments.

SMOOTH



Each
No. 24—Length 8 in.; Size of Cutter 2 in.; Weight each about 3 lbs. $6.50

HANDLED SMOOTH.

Each
No. 35—Length 9 in.; Size of Cutter 2 in.; Weight each about 3½ lbs. $7.60

Nos.	26	28
Style	Jack	Fore
Length, inches	11	18
Size of Cutter, inches	2	2⅜
Weight each about, lbs.	7	9
Each	$6.70	8.40

One in a Cardboard Box.

ADJUSTABLE PLANES.

BAILEY'S IRON.

JAPANNED CAST-IRON FRAMES; Mahogany Finish Handles and Knobs; Japanned Caps; Tempered and Polished Tool Steel Cutters; Screw and Lever Adjustments.

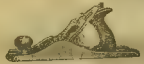
Corrugated Bottom

IRON, SMOOTH; SMOOTH BOTTOM.

Nos.	2	7	7/0	4½
Length, inches	7	9	10	5½
Size Cutter, inches	1⅝	1¾	2	2⅝
Weight each about, lbs.	5.30	8.20	9.00	10.30
Each	$7.50	$8.20	$9.00	$10.30

IRON, SMOOTH; CORRUGATED BOTTOM.

Nos.	3 C	4 C	4½ C
Length, inches	7	8	9
Size of Cutter, inches	1¾	2	2⅝
Weight each about, lbs.	5.30	8	8
Each	$8.20	9.70	11.10



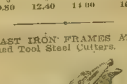
IRON, SMOOTH BOTTOM.

Nos	5	5½	6	7	8
Style	JACK	JACK	FORE	JOINTER	JOINTER
Length, in.	14	15	18	22	24
Size Cutter, in.	2	2¼	2⅜	2⅜	2⅜
Weight each about, lbs	4⅜	6	7¼	9¾	13¾
Each	$10.00	11.00	13.20	14.30	17.50

IRON, CORRUGATED BOTTOM.

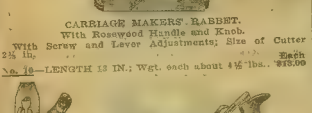
Nos	5 C	5½ C	6 C	7 C	8 C
Style	JACK	JACK	FORE	JOINTER	JOINTER
Length, inches	14	15	18	22	24
Size Cutter, in.	2	2¼	2⅜	2⅜	2⅜
Weight each about, lbs	5	6	8	9¾	13¾
Each	$10.50	12.40	14.80	16.50	19.30

JAPANNED CAST IRON FRAMES AND CAPS; Tempered and Polished Tool Steel Cutters.



CARRIAGE MAKERS' RABBET.
With Rosewood Handle and Knob.
With Screw and Lever Adjustments; Size of Cutter 2⅜ in.

Each
No. 10—LENGTH 13 IN.; Wgt. each about 4½ lbs. $13.00



Showing Adjustable Handle and Knob.

Carriage Makers' Rabbet, with ADJUSTABLE MAHOGANY FINISH HANDLE AND KNOB.

Each
No. 10½—With Screw and Lever Adjustment; Length 13 In., Size of Cutter 2⅜ In.; Wgt. each about 4½ lbs $15.60

One in a Cardboard Box.

We want to handle your MAIL ORDERS in just the way you want them handled.

We give you the same low prices on MAIL ORDERS as made by our salesmen

ADJUSTABLE PLANES.

STANLEY'S BED ROCK.

JAPANNED CAST IRON FRAMES; Mahogany Finish Handles and Knobs; Japanned Caps; Tempered and Polished Tool Steel Cutters; Screw and Lever Adjustments Designed so that the Entire Bottoms or Face or Frog Rests Solidly on Seat in Frame, and can be Adjusted for Wide or Narrow Throat Opening.

Design of Frame.

IRON, SMOOTH; SMOOTH BOTTOM.

Nos.	603	604
Length, inches	8	9
Size of Cutter, inches	1¾	2
Weight each about, lbs	3¼	3¾
Each	$9.30	10.00

IRON, SMOOTH, CORRUGATED BOTTOM.

Nos.	603/C	604/C
Length, inches	8	9
Size of Cutter, inches	1¾	2
Weight each about, lbs	3½	3¾
Each	$10.00	10.80

One in a Cardboard Box.

IRON, SMOOTH BOTTOM.

Nos.	605	606	607
Style	JACK	FORE	JOINTER
Length, inches	14	18	22
Size Cutter, inches	2	2⅜	2⅜
Weight each about, lbs	4½	8¾	7⅛
Each	$11.50	14.50	16.80

IRON, CORRUGATED BOTTOM.

Nos.	605/C	606/C	607/C
Style	JACK	FORE	JOINTER
Length, inches	14	18	22
Size Cutter, inches	2	2⅜	2⅜
Weight each about, lbs	5	8¾	7⅛
Each	$12.50	15.70	18.00

One in a Cardboard Box.

IRON BLOCK PLANES.

STANLEY'S.

JAPANNED CAST IRON FRAMES and Caps; Tempered and Polished Tool Steel Cutters.

TOY SIZE; Not Adjustable; Size of Cutter 1 in.

Each
No. 101—Length 3⅛ in.; Weight each about ¾ lb... $0.90

NOT ADJUSTABLE; Size of Cutter 1¾ in.

Each
No. 102—Length 5¼ in.; Weight each about 1 lb.... $1.80

WITH LEVER ADJUSTMENT; Size of Cutter 1¾ in.

Each
No. 103—Length 5¼ in.; Weight each about 1 lb.... $2.40

NOT ADJUSTABLE; Size of Cutter 1⅝ in.

Each
No. 110—Length 7½ in.; Weight each about 1½ lbs. $2.40

DOUBLE END; NOT ADJUSTABLE; Size of Cutter 1⅝ in.

Each
No. 120—Length 8 in.; Weight each about 1½ lbs..... $3.50

This Plane has Two Slots and Two Cutter Seats. It can be used as a Block Plane, or by reversing the position of the Cutter and the Clamping Wedge (see dotted lines in the engraving), it can be used to plane close up into corners, or places difficult to reach with any other plane.

WITH LEVER ADJUSTMENT; Sides of Plane Ground, Rosewood Knob; Size of Cutter 1⅝ in.

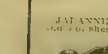
Each
No. 120 Length 7½ in.; Weight each about 1⅝ lbs. $3.40

One in a Cardboard Box.

IRON BLOCK PLANES.

STANLEY'S.

JAPANNED CAST IRON FRAMES and Caps; Tempered and Polished Tool Steel Cutters.



DOUBLE END, with Screw Adjustment; Size of Cutter 1¾"

Each

No. 131—Length 8 in.; Weight each about 1¾ lbs.....$5.70

This Plane has Two Slots and a Movable Cutter Seat. When it is desired to use it as a Bull Nose Plane the Cap and Cutter can be removed and the Adjustable Cutter Seat reversed as indicated in Cut.

WITH SCREW ADJUSTMENT.

Each

No. 220—Length 7 in.; Size of Cutter 1⅝ in.; Weight each about 1½ lbs.....$3.50

No. 203—Length 5½ in.; Size of Cutter 1⅜ in.; Weight each about 1¼ lbs.....3.40

LOW ANGLE, with Screw and Throat Adjustment

Length 6 in.; Size of Cutter 1⅝ in.

Each

No. 60½—Japanned Trimmings.....$4.80

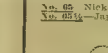
Weight Each about 1¼ lbs.

Length 7 in.; Size of Cutter 1⅝ in.

No. 65—Nickel Trimmings.....$6.40

No. 65½—Japanned Trimmings.....6.20

Weight Each about 1½ lbs.



KNUCKLE JOINT.

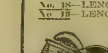
Nickel Plated Cap, Lever and Screws.

With Screw Lever and Throat Adjustments; Size of Cutter 1⅝ in.

Each

No. 18—LENGTH 6 IN.; Weight each about 1½ lbs...$5.70

No. 19—LENGTH 7 IN.; Weight each about 1½ lbs... 6.00



RABBET AND BLOCK.

WITH SCREW ADJUSTMENT; Right Side Detachable to change to Rabbet; Cutter set on a Skew; Size of Cutter 1⅝ in.

Each

No. 140—Length 7 in.; Weight each about 2 lbs.....$6.10

A detachable Side will easily change this Tool from a Block Plane to a Rabbet Plane, or vice versa. The Cutter is set on a Skew.

With Screw, Lever and Throat Adjustments; Size of Cutter 1⅝ in.

Each

No. 18—LENGTH 6 IN.; Weight each about 1½ lbs. $4.70

No. 19—LENGTH 7 IN.; Weight each about 1½ lbs. 5.00

STANLEY'S BULL NOSE RABBET.

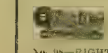
Nickel Plated.

WITH SCREW ADJUSTMENT; Size of Cutter 1 in.

Each

No. 98—Length 4 in.; Weight each about 1 lb.....$5.00

This Plane is Designed for Fine Cabinet Work where Extreme Accuracy is required. The Sides and Bottom being Square with each other the Plane will fit Perfectly Flat, on either side, and can be used Right or Left.



SIDE RABBET.

Hardwood Handles.

Length 4 in.; Size of Cutter ½ in.

Each

No. 98—RIGHT HAND.....$4.00

No. 99—LEFT HAND.....4.00

Weight Each about ½ lb.

Used for Side Rabbeting and Trimming Dados, Mouldings and Grooves of all sorts. The Reversible Nose Piece gives the Tool a form by which it will work close up into corners when required.

One in a Cardboard Box.

ADJUSTABLE PLANES.

STANLEY'S GAGE SELF-SETTING.

The Self-setting Feature makes it possible to remove Plane Iron for Sharpening and Honing, and replace in same position as before removed. The Plane Cap likewise goes back in same position when removed for taking out Plane Iron.

Cast Iron Frame; Bottom and Sides Polished, Inside Black Japanned, Rosewood Handle and Knob; Tempered and Polished Tool Steel Cutter with Adjustment Side and Binder Plate; Side of Adjustment Slide Machined to accurately fit grooves machined in Frog and Adjusting screw and is permanently fixed sideways and endwise. Cast Iron and Steel Plane Cap, can be so adjusted so that cap fits Cutting Iron as to make it either a Single or Double Plane Iron; Screw Adjustments.

IRON, SMOOTH BOTTOM.

Each

No. 64—SMOOTH, Length 9 in.; 2 in. Cutter; Weight each about 7 lbs.....$10.50

IRON, SMOOTH BOTTOM.

Each

No. 65—JACK, Length 14 in., 2 in. Cutter; Weight each about 4¼ lbs.....$12.00

IRON, SMOOTH BOTTOM.

Each

No. 66—FORE, Length 18 in.; 2¾ in. Cutter; Weight each about 5½ lbs.....$15.50

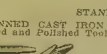
One in a Cardboard Box.

STANLEY'S.

JAPANNED CAST IRON FRAMES and Clamps; Tempered and Polished Tool Steel Cutters.

IMPROVED SCRUB

Hardwood Handles.



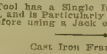
With Rounded Cutting Edge; Size of Cutter 1¾ in.

Each

No. 40—Length 9½ in.; Weight each about 2¼ lbs...$4.50

This Tool has a Single Iron, with the Cutting Edge Rounded, and is Particularly Adapted for Roughing Down Work before using a Jack or other Plane.

Cast Iron Frames and Caps



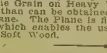
Each

No. 62—LOW ANGLE JACK. With Throat and Screw Adjustments; Length 14 in.; Size of Cutter 2 in.; Weight each about 4 lbs.....$11.40

This Plane is especially adapted for use in Cutting Across the Grain on Heavy Work, where more power is required than can be obtained by the use of the ordinary Block Plane. The Plane is fitted with Patent Adjustable Throat, which enables the user to work equally well on Hard or Soft Wood.

CABINET MAKERS' EDGE PLANE

Rosewood Knob; Size of Cutter 2¾ in.

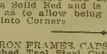


Each

No. 97—Length 10 in.; Weight each about 3¾ lbs. $8.00

For Plane Makers and all Cabinet Workers; Cutter rests on a Solid Bed and is located at Extreme End of Plane so as to allow being used in Small Spaces, and close up into Corners

CAST IRON FRAMES, CAPS AND HANDLES; Tempered and Polished Tool Steel Cutters; Polished Spring Steel Horizon. Screw and Lever Adjustments; Can be adjusted to Work on Concave or Convex Surfaces.



Each

No. 113 — CIRCULAR; Japanned Frame and Cap; Length 10 in.; Size of Cutter 1⅝ in.; Weight each about 4 lbs.....$15.20

By means of the Graduated Scale on the Gears, the Face can be Accurately Set to Work an Arc of the Same Circle, both Concave and Convex, by turning the Knob on the Front of the Plane

One in a Cardboard Box

ADJUSTABLE PLANES.

STANLEY'S.

JAPANNED CAST IRON FRAMES and Caps; Tempered and Polished Tool Steel Cutters.

ROUTER, WITH CLOSED THROAT.

Beechwood Handles.

Nickel Plated Frame; Complete with one Cutter each ¼ and ½ in.

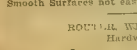
Each

No. 71½—Length 7½ in.; Weight each about 1 lbs. $4.00

It is Perfectly Adapted to Smooth the Bottom of Grooves, Panels or all Depressions Below the General Surface of any Woodwork. The Fine Cut Is Set Close to the Back Side of the Upright Rod and Outside of the Stock. In this position they will Plane into Corners, will Rout out Mortises for Sash Frame Fillers, or will Smooth Surfaces not easily reached with any other Tool.

ROUTER, WITH OPEN THROAT.

Hardwood Handles.



Nickel Plated Stock, with Tempered and Polished Tool Steel Cutter; Nickel Plated Frame. Complete with One Cutter each ¼ and ½ in. Mahogany Finish Handles

Each

No. 71 Length 7½ in.; Weight each about 2½ lbs. $6.00

SCRAPER.

Adjustable, Japanned Cast Iron Frame, Mahogany Handle and Knob, Polished and Tempered Tool Steel Cutter; Size of Cutter 3 in.

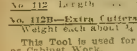
Each

No. 112 Length over all, 7 in. $1.50

No. 112B—Extra Cutters for No. 112 Scraper, Size 3 in.; Weight each about ¼ lb. .70

This Tool is used for Scraping and Finishing Veneers or Cabinet Work.

DOUBLE END MATCH.



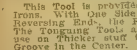
NICKEL PLATED Cast Iron Frame, Handles and Caps Tempered and Polished Tool Steel Cutters: Cuts both Tongue and Groove.

Each

No. 148—Length 9 in.; Size of Cutter ⅜ in.; Cut Groove ⅜ in., Weight each about 2¾ lbs. $2.50

This Tool is covered with both Tongue and Groove Irons. With One Side a Tongue can be Cut, and by Reversing Ends, the Plane will Cut a Groove to Fit. The Tonguing Tools are made Wider on One Side for use on Thicker stuff than the Plane will Tongue and Groove in the Center.

CAST IRON FRAMES AND CAPS; Tampered and Polished Tool Steel Cutters.



RABBET, WITH SPUR.

Japanned.

Nos.	190	191
Length, inches	7	7
Size of Cutter, inches	1¼	1¾
Weight each about, lbs.	2	2½
Each	$6.00	5.70

Perfectly Flat on Either Side, and can be used with Right or Left Hand equally well, while Planing into Corners or up against Perpendicular Surfaces.

SKEW CUTTER, FILLETSTER AND RABBET.

CAST IRON FRAMES AND CAPS; Tempered and Polished Tool Steel Cutters.

Each

No. 289—Japanned; Length 8½ in.; Size of Cutter 2 in.; Adjustable to Cut any size up to 2 in.; Weight each about 4 lbs. $7.80

No 289 is equipped with a fence which can be attached to either side of the plane so that it can be used either Right or Left Hand.

One in a Cardboard Box

ADJUSTABLE PLANES.

STANLEY'S

CAST IRON FRAMES AND CAPS: Tempered and Polished Tool Steel Cutters.

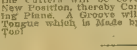
TONGUING AND GROOVING

Each

No. 48—NICKEL PLATED; Length 10½ in.; for Boards ⅝ to 1¼ in. Thick; Weight each about 3 lbs. $10.50

No. 48 has two Cutters Fastened into the Stock by Thumb Screws. The Guide, or Fence, when Set as shown in the above engraving, allows Both of the Cutters to act; and the Cutters being placed at a suitable distance apart, a perfect Tonguing Plane is made. The Guide or Fence, which is Reversible, can also be set so that it may be easily swung around end for end; Thus, one of the Cutters will be covered and the Guide held in a New Position, thereby Converting the Tool into a Grooving Plane. A Groove will be Cut to Exactly Match the Tongue which is Made by the Other Adjustment of the Tool.

RABBET AND FILLETSTER



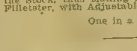
Each

No. 78—JAPANNED; Length of Cutter 1½ in.; Weight each about 3 lbs. $6.70

No. 78 has a Movable Arm to which the Fence is Screwed and Rubber Plug Fitted Over and with Two Screws to the Cutter, so that the Tool can be used as a Bull-Nose Rabbet is required. The construction of the Stock is such that the Cutting will be Perfectly Flat on Either Side, and can be Used with Right or Left Hand equally well, while Planing into Corners or up Against Perpendicular Surfaces. The arm to which the Fence is Secured can be Screwed into Either Side of the Stock, thus Making a Superior Right or Left Hand Filletster, with Adjustable Spur and Depth Gauge.

One in a Cardboard Box

STANLEY'S BEADING, RABBET AND SLITTING COMBINED.



NICKEL PLATED CAST IRON FRAMES, Mahogany Handles, Tempered and Polished Tool Steel Cutters.

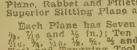
Each

No. 45—Length 11 in.; Weight each about 2¼ lbs. $27.50

This Plane embraces a Beading and Center Beading Plane, Rabbet and Filletster, Dado and Slow, Matching Plane, Superior Slitting Plane and Sash Plane.

Each Plane has Seven Beading Tools (⅛, 3/16, ¼, 5/16, ⅜, 7/16 and ½ in.); Ten Plow and Dado Bits (⅛, 3/16, ¼, 5/16, ⅜, 7/16, ½, ⅝, ¾ and ⅞ in.); a Slitting Blade, a Sash Tool and Tonguing Tool.

COMBINED TRAUT'S ADJUSTABLE DADO, PLOW, ETC



NICKEL PLATED CAST IRON FRAMES; Mahogany Handles, Tempered and Polished Tool Steel Cutters.

Each

No. 46—Length 10 in.; Weight each about 5½ lbs. $20.00

Complete with Eight Plow and Dado Bits (⅛, 3/16, ¼, 5/16, ⅜, ½ and 1¼ inch), a Filletster Cutter and a Tonguing Tool and Fillets.

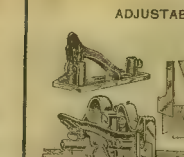
Planes Nos. 45 and 46 combine a Main Stock and a Sliding Section so arranged that Cutters of Different Widths can be used. Each Plane is fitted with Adjustable Fence or Guide and a Depth Gauge, and also with Spurs for use in working across the Grain. Can be used Right or Left Handed

Slitting Attachment with Plane Nos. 45 and 46. The Improvement is an Important One, as Carpenters who have not the convenient use of Circular Saws can with this Slitting Tool Rapidly Slit Up their stuff for Fitting Up Doors and Windows, or Kindred Work.

Cut Shows Slitting Gauge with Planes Nos. 45 and 46

One in a Wood Box

ADJUSTABLE PLANES.



DOVE-TAIL TONGUE AND GROOVE.

NICKEL PLATED CAST IRON FRAME AND HANDLE; Tempered and Polished Tool Steel Cutters.

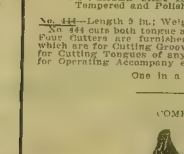
Each

No. 444—Length 9 in.; Weight each about 5½ lbs. . $22.00

No. 444 cuts both tongue and groove for dove-tail work. Four Cutters are furnished with each Plane, three of which are for Cutting Grooves of Different Sizes, and one for Cutting Tongues of any Size. Complete instructions for Operating Accompany each Plane.

One in a Wood Box.

COMBINED.



This Tool, in the Hands of an Ordinary Carpenter, can be Used for All Lines of Work covered by a full assortment of so-called Fancy Planes.

STANLEY'S PATENT UNIVERSAL.

NICKEL PLATED CAST IRON FRAME. Mahogany Handles. Steel Adjusting Screws. Tempered and Polished Tool Steel Cutters.

Each

No. 55—With 52 Cutters; Wgt. each about 15½ lbs. $34.00

One in a Heavy Cardboard Box.

The 52 Cutters are arranged in four separate cases.

This Plane consists of:

A Main Stock (A) with Two Sets of Transverse Sliding Arms, a Depth Gauge (F) Adjusted by a Screw, and a Slitting Cutter with Stop.

A Sliding Section (B), with a Vertically Adjustable Bottom.

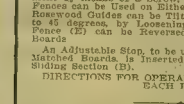
The Auxiliary Center Bottom (C) is to be Placed in Front of the Cutter, as an Extra Support, or Stop, when needed. This Bottom is Adjusted Both Vertically and Laterally.

Fences (D) and (E). Fence (D) has a Lateral Adjustment by means of a Screw, for Extra Fine Work. The Fences can be Used on Either Side of the Plane, and the Rosewood Guides can be Tilted to Any Desired Angle, up to 45 degrees, by Loosening the Screws on the Face. Fence (E) can be Reversed for Center Beading of Narrow Boards.

An Adjustable Stop, to be used in Beading the Edges of Matched Boards, is Inserted on the Left Hand Side of Sliding Section (B).

DIRECTIONS FOR OPERATING FURNISHED WITH EACH PLANE.

COMBINED BEADING AND MATCHING.



CAST IRON FRAMES AND CAPS; Tempered and Polished Tool Steel Cutters.

NICKEL PLATED; Including Beading Cutters ⅛, ⅜, ½, ⅝, ¾, ⅞ and 1 in., and One Pair of ¼ in Matching Cutters.

Each

No. 50—Length 9½ in; Weight each about 3 lbs. . $15.00

This Tool for Ordinary Beading or for Center Beading can not be surpassed. By Adjustment of the Fence, Center Beading can be done up to five inches from the Edge of a Board, Except for working across the Grain, the Spurs need not be used.

One in a Cardboard Box

EDGE TRIMMING PLANES.

STANLEY'S.

Japanned Cast Iron Frame and Clamp; Tempered and Polished Tool Steel Cutter.

Each

No. 95—Length 6 in; ⅞ in. Line. Weight each about 1¼ lbs. $3.00

One in a Cardboard Box.

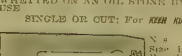
This Plane is designed for trimming or smoothing the ends of boards for a close fit. Cutter works on a skew, giving an easy shaving cut.

PLANE IRONS.

KEEN KUTTER

FORGED FROM HIGHEST GRADE TOOL STEEL, Oil Tempered, Full Polished, SHARPENED AND WHETTED ON AN OIL STONE BY HAND, READY FOR USE

SINGLE OR CUT; For *KEEN KUTTER* Iron Planes.

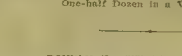


No.	K31½	K32
Size, inches	1¾	2
Weight per dozen about, lbs	3	4
Per doz.	$14.70	15.50

Nos.	K32½	K32¾	K32⅞	K32⅝
Size, inches	2¼	2½	2⅝	2¾
Weight per dozen about, lbs	3½	3⅝	4¼	4½
Per dozen	$16.90	18.20	18.40	19.40

One-half Dozen in a Wood Box.

DOUBLE; For *KEEN KUTTER* Iron Planes.



Nos.	K41¾	K42
Size, inches	1¾	2
Weight per dozen about, lbs.	4½	5½
Per dozen	$23.20	26.50

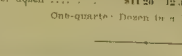
Nos.	K42½	K42¾	K42⅞
Size, inches	2¼	2½	2⅝
Weight per dozen about, lbs	5½	5¾	6
Per dozen	$28.60	30.10	31.00

DOUBLE, For *KEEN KUTTER* Wood Bottom Planes.

Nos.	K51¾	K52	K52½	K52¾	K52⅞
Size, inches	1¾	2	2¼	2½	2⅝
Weight per doz. about, lbs.	12	12	12	12	12
Per dozen	$11.20	12.30	13.30	14.30	15.00

One-quarter Dozen in a Wood Box.

For *KEEN KUTTER* Block Planes.



FORGED FROM HIGHEST GRADE TOOL STEEL, Oil Tempered, Full Polished, SHARPENED AND WHETTED ON AN OIL STONE BY HAND, READY FOR USE.

Per Dozen

No. K810—Size 1¾ in.; For Planes Nos. K9½, K9¾, K15, K16, K17, K18, K19, K85 and K220. . . . . $10.20

No. K820—Size 1¾ in.; For Planes Nos. K110 and K111. . . . . 7.00

No. K830—Size 1¾ in., For Plane No. K60 . . 10.20

No. K840—Size 1⅝ in.; For Plane No. K120 . . 10.20

No. K850—Size 1¼ in., For Plane No. K105 . . 5.20

No. K860—Size 1¾ in.; For Plane No. K101 . . 5.20

One Dozen in a Cardboard Box; Weight per Dozen about, No. K810 and K830 1¾ lbs; No. K17, 11½ lbs; No. 2 lbs; K15, 9 lbs; No. K16, 11½ lbs.

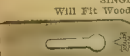
PLANE IRONS.

KEEN KUTTER.*

SOFT STEEL FORGED BODY, with Highest Grade Tool Steel Bit, Oil Tempered, Full Polished, SHARPENED AND WHETTED ON AN OIL STONE BY HAND, READY FOR USE.

SINGLE OR CUT.

Will Fit Wood Bench Planes Only.

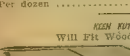


Nos.	K102	K102½
Size, inches	2	2½
Wgt. per doz. abt. lbs.	6¾	7
Per Dozen	$12.00	13.70

Nos.	K102¾	K103	K103½	K103⅝
Size, inches	2¾	2⅝	2⅞	2⅝
Wgt. per doz. abt. lbs.	7½	8	8½	8⅝
Per dozen	$15.10	16.80	18.40	19.90

*KEEN KUTTER** DOUBLE

Will Fit Wood Bench Planes Only.



Nos.	K122	K122½
Size, inches	2	2⅛
Wgt. per doz. abt. lbs.	9	10½
Per dozen	$23.00	25.70

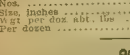
Nos.	K122¾	K122⅝	K123½	K123⅝
Size, inches	2⅜	2⅝	2⅞	3
Wgt per doz. abt. lbs.	10½	11½	12½	13
Per dozen	$24.00	26.50	29.40	31.80

*OAK LEAF**

SOFT STEEL FORGED BODY, with Special Tool Steel Bit, Oil Tempered, Polished and Sharpened.

Will Fit Wood Bench Planes Only.

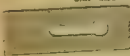
OAK LEAF* SINGLE OR CUT.



Nos.	K202	K202½
Size, inches	2	2⅛
Weight per doz. about, lbs.	6¾	7
Per doz. $	$11.20	11.80

Nos.	K202¾	K202⅞	K202⅛	K202⅝
Size, inches	2⅜	2⅝	2⅞	3
Wgt per dozen about, lbs.	7½	8	8½	9
Per dozen	$13.90	14.70	16.30	17.10

OAK LEAF*, DOUBLE



Nos.	K222	K222½
Size, Inches	2	2⅛
Weight per doz. about, lbs.	9	9½
Per dozen	$20.50	20.90

Nos.	K222¾	K222⅞	K223½	K223⅝
Size, inches	2⅜	2⅝	2⅞	3
Wgt. per dozen about, lbs.	10	10½	11	11½
Per dozen	$22.00	23.00	25.50	28.10

One-half Dozen in a Wood Box.

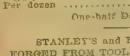
STANLEY'S and BAILEY'S Patent Improved. FORGED FROM TOOL STEEL, Tempered and Polished.

CUT: Single, for both Wood Bottom and Iron Planes; Fit Bailey and Bed Rock Planes.

Nos.	SC 1½	SC 1¾	SC/1⅞	SC/2
Size, inches	1⅝	1⅞	1⅞	2
Weight per dozen about, lbs	5	5	2½	5
Per dozen	$9.70	11.50	13.50	14.00

Nos.	SC/2¼	SC/2¾	SC/2⅜	SC/2⅝
Size, inches	2¼	2¾	2⅜	2⅝
Weight per dozen about, lbs	5½	3½	4	5
Per dozen	$15.20	16.30	16.80	17.80

No. BP—For Planes Nos. 9½, 8½, 15, 10½, 18, 17, 18, 19, 220 and 1... Per dozen about 12 lbs. Per Dozen, $4.80



... Wood Planes For Bailey Planes

Nos.	WP2	WP2¼	WP2¾	WP2⅜
Size, inches	2	2¼	2¾	2⅜
Wgt. per dozen about, lbs.	8½	8½	9	7½
Per dozen	$24.00	25.70	26.00	27.00

DOUBLE, for Iron Planes, ... Bailey and Bed Rock Planes

Nos.	IP1½	IP2	IP2¼	IP2⅜
Size, inches	1⅝	2	2¼	2⅜
Wgt. per doz. about, lbs.	9	9½	10	10½
Per dozen	$26.70	27.90	28.40	27.00

... Box

CABINET SCRAPERS.

*KEEN KUTTER**

Highest Grade Tool Steel Blade, Tempered and Polished, Edges Ground Square, Giving Eight Cutting Edges; Steel Frame into which Blade is Held by Thumb Nut in Front, Hardwood Handle, Dead Black Finish, with Ball and Socket Connection to Frame, making it Adjustable to ANY Position. Length over all 11 in.

Per Dozen

No. K80—*KEEN KUTTER**; Blade 3x3 in.; Weight per dozen about 18 lbs. $37.70

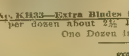
One-twelfth Dozen in a Cardboard Box.

Per Dozen

No. K83—Extra Blades for No. K80 Scrapers; Weight per dozen about 2½ lbs. $5.80

One Dozen in a Cardboard Box.

*KEEN KUTTER**.



Japanned Cast Iron Frame and Handles. Highest Grade Tool Steel Cutters; Oil Tempered, Polished on One Side, SHARPENED AND WHETTED BY HAND ON AN OIL STONE, READY FOR USE, Length 11 in.

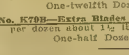
No. K79—*KEEN KUTTER**: Size of Cutter 2⅜ in.; Weight per dozen about 15 lbs. ..... Per Dozen, $35.00

One-twelfth Dozen in a Cardboard Box.

No. K79B—Extra Blades for No. K79 Scrapers; Weight per dozen about 1½ lbs. ..... Per Dozen, 4.70

One-half Dozen Wrapped in Paper.

*OAK LEAF**



Black Japanned Cast Iron Frame, with Polished Clamp and Thumb Screw; Tempered and Polished Tool Steel Cutter, Raised Handles, Length over all 11 in.; Size of Cutter 2⅜ in.

Per Dozen

No. F77—OAK LEAF*: Weight per doz. about 21 lbs. $23.00

STANLEY'S

Japanned Cast Iron Frame and Clamp; Raised Handles, Polished and Tempered Tool Steel Cutters; Length 11 in.; Size of Cutter 2⅜ in.

Per Dozen

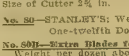
No. 80—STANLEY'S: Weight per doz. about 21 lbs. $35.20

One-twelfth Dozen in a Cardboard Box.

No. 80B—Extra Blades for No. 80 Scrapers; Cast Steel, Weight per dozen about 1½ lbs. 6.40

One Dozen in a Cardboard Box

*OAK LEAF**



Beechwood Curved Handle, 12¾ in. Long, Varnished Top and Bottom, Smooth Rolled Steel Special Crucible Steel Blade, 3x3 in., Polished, Tempered and Sharpened. Blade is Inserted in Handle and Fastened with Nickel Plated Steel Screw and Tightening Lever.

Per Dozen

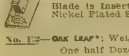
No. E2—OAK LEAF*: Weight per dozen about 8¾ lbs. $10.50

One half Dozen in a Cardboard Box

No. E2B—Extra Blades for No. E2 Scrapers; Weight per dozen about 1½ lbs. 6.40

Packed Loose.

STANLEY'S



Adjustable; Nickel Plated Cast Iron Frame and Clamp; Hardwood Handles; Polished and Tempered Tool Steel Cutters; Length 11 in. Size of Cutters 4 in

Per Dozen

No. 83—STANLEY'S: Weight per dozen about 18 lbs. $35.00

One-twelfth Dozen in a Cardboard Box.

No. 83B—Extra Cutters for No. 83 Scrapers; Size 3 in Weight per dozen about 3 lbs. ..... Per Dozen, 6.40

One-half Dozen in a Cardboard Box.

Can be Adjusted to Any Desired Pitch and may be worked toward or from the person using it. Roller acts as a Support to relieve the strain on the wrist and hands of the workman. Handle can be Detached for Working into Corners.

PLANES.

PAGOMA

"PAGOMA" Planes Have the Same High Standard of Quality as the Balance of Our "Pagoma" Line.

Every Care is Taken to Preserve This Standard and we Guarantee Each Item Bearing This Brand to be Satisfactory and Free From Defects in Material and Workmanship.

FULLY WARRANTED.

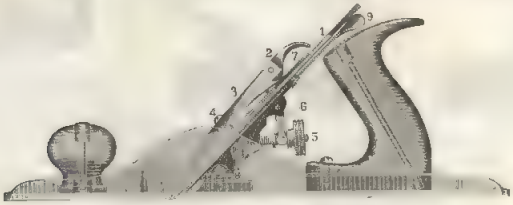


Illustration is sectional view of our No. 5 Iron Jack Plane.

DIRECTIONS FOR

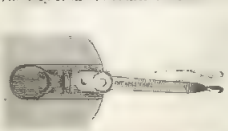
"PAGOMA" ADJUSTABLE IRON PLANES.

TO REMOVE THE CAP AND CUTTER, raise the Thumb Piece (2) which acts as a cam, thus releasing the pressure of the lever (3) upon the Plane Iron (1). To remove this Lever (3) it is not necessary to loosen the Screw (4), as the Lever is provided with a slot, which allows of its being easily removed. This Screw (4) regulates the pressure of the Lever upon the Plane Iron, and when properly adjusted, should not be changed.

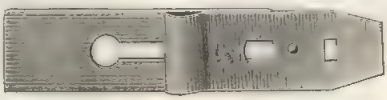
TO REGULATE THE DEPTH OF CUT TO BE TAKEN, revolve the adjusting Screw (5), which operates upon the Fork Lever (8) to the right or left, thus lowering or raising the Plane Iron. After the Plane Iron is set to cut a shaving of the thickness required, if it is not exactly true with the bottom of the Plane, it can be adjusted by means of the Lateral Adjustment Lever (6). By moving this laterally to the right or left, the cutting edge of the Plane Iron may be adjusted to bring it parallel with the bottom of the Plane, causing it to take an even cut.

TO REGULATE THE WIDTH OF THE MOUTH OF THE PLANE, loosen the Screws (9), of which there are two in the Plane, placed in slots in the Frog (10), thus allowing the Frog to be moved forward or backward.

The Plane Iron (1) is made of Guaranteed Steel, tempered and ground by a new form process, which gives a keen cutting edge that will wear well under all conditions. The Cap Iron (7) is also of steel and is fastened to the Plane Iron by a small screw which operates in a slot in the Plane Iron.



The above cut shows the Adjusting Lever used in "PAGOMA" Planes, and the method by which the Iron can be easily adjusted sidewise, giving an easy lateral adjustment.



The above cut represents the "PAGOMA" Improved Plane Iron and Cap used in "Pagoma" Planes.

These Cutters are made from a superior grade of steel. They are EXTRA HEAVY, being nearly twice the thickness of the ordinary cutter. Because of this, the cutting edge is true and sound, and WILL NOT CHATTER in the HARDEST WOODS. This point in "PAGOMA" CUTTERS is greatly appreciated by all who use them, as it is a distinct advantage over any other Plane made.

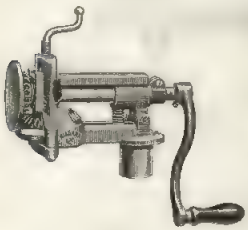
"PAGOMA" meets the demand of the mechanic for PERFECTION in Tools.

TINNERS' TOOLS.

SETTING DOWN MACHINES

These machines follow the burring machines and press the edge of the bottom on to the flange of cans and similar work

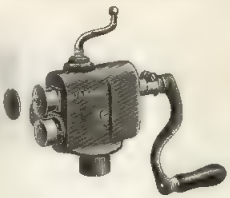
Superior Possesses the advantage that the operator can start the seam inward while setting it down, thereby facilitating the operation of double seaming. The work can be held up or down



Niagara.

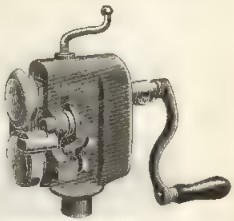
	Net each
*Niagara, for seams $\frac{3}{16}$ to $\frac{7}{8}$ in. wide, with stand, weight 28 lbs. each... ....List each *	$

BURR MACHINES.



	Net each
Superior, small, with standard, with extra upper face, weight 30 lbs. each. ....List each $84.00	$75.00
Superior, large, with standard, with extra upper face, weight 35 lbs. each .. .. List each $96.00	79.00

WIRING MACHINES.



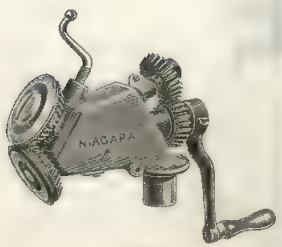
	Net each
Superior—With standard, weight 41 lbs. each..... .. ..List each $40.00	$88.00

IMPROVED MACHINE STANDARDS.

They can be used on any bench from 1 to 3 in. thick The necessity of cutting holes in the bench is obviated, and the tinner is enabled to use a machine in any part of his shop most convenient to his work. The wrench is always attached to the standard

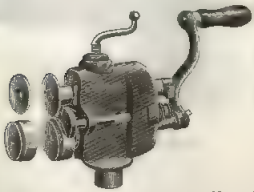
	Net each
*Small Diameter of hole 1¼ in., weight 11 lbs .....List each $	
*Heavy Diameter of hole 2$\frac{5}{8}$ in., weight 21 lbs .. ..List each .. .	

TURNING MACHINES.



Superior.

	Net each
Superior, for seams $\frac{1}{4}$ to $\frac{3}{8}$ in. wide, with stand, weight 38 lbs. each .... List each $35.00	$70.00



	Net each
Superior, small, with standard, with extra upper and lower face, weight 38 lbs. each ....List each $37.00	$82.00
Superior, large, with standard, with extra upper and lower face, weight 42 lbs. each .. ..List each $39.00	86.00

Items Marked (*) are F. O. B. Buffalo, N. Y.

INFORMATION
REGARDING *KEEN KUTTER** POCKET KNIVES.

It is our aim to furnish under the *KEEN KUTTER* Trade Mark, the Highest Quality of Pocket Cutlery which can be produced.

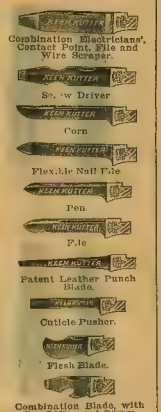
It is our constant aim to see that everything about the line is of always the Highest Quality, from the selection of the Raw Material to the Wrapping and Packing of the finished product.

WORKMANSHIP—The majority of the men who manufacture this line were schooled in the art of making Fine Cutlery in the best English factories, where they learned their trade, and where their fathers and grandfathers spent their lives in the manufacture of Pocket Knives. The men are liberally paid for their work, and are constantly reminded that the item of quality is of much more importance than quantity.

THE BLADES are forged from the Highest Grade of Crucible Steel especially for the purpose, and have an absolutely Uniform Temper, and are Sharpened by Hand to a Sharp Cutting Edge, Ready for Use.

As specified in the descriptions, the Blades are either Full Crocus Polished (i. e., each Blade Polished on Both Sides) or Half Polished (i. e., Large Blade Polished on One Side and other Blades Glazed Finish).

PATTERNS OF BLADES—The line contains every possible shape of Blades which is at all practical, as is shown by the following illustrations:


Combination Electricians', Contact Point, File and Wire Scraper.
Screw Driver
Corn
Flexible Nail File
Pen
File
Patent Leather Punch Blade.
Cuticle Pusher.
Flesh Blade.
Combination Blade, with Cap Lifter and Screw Driver
Can Opener.
Combination Blade, with Cap Lifter, Tack Puller and Screw Driver.
Combination Blade, with Cap Lifter, Prest-O-Lite Tank Key and Screw Driver.

INFORMATION
REGARDING *KEEN KUTTER** POCKET KNIVES

COVERINGS ARE AS FOLLOWS:

NICKEL SILVER—Producing an appearance quite similar to Sterling Silver

PEARL—Obtained through the London markets from the Dutch East Indies and Australian Fisheries, where the Highest Quality of Pearl is found.

GENUINE IVORY—Obtained from the elephants of the West Coast of Africa, where the Ivory is found to be much Superior in Quality—especially in hardness—to that of the Eastern Coast, and of Asia.

CUT STAG—Made by Artificially Cutting the Second Layer of Genuine Stag, or sometimes Bone, and carefully coloring until it so closely resembles Genuine Stag, both in its irregular surface, and color, as to be difficult to distinguish from the real article.

WHITE BONE—The shin bone of best cattle, which, when carefully selected and cured, gives a covering capable of High Finish and Good Wearing Qualities.

ALUMINUM—Which is especially adapted for Engraving Fancy Decorations.

GENUINE STAG—Outside cut of the horn, obtained from Hungary, Bohemia, Ceylon and China, which countries produce the Highest Quality of Stag.

BUFFALO HORN—From the Buffaloes of Siam and India.

COCOBOLO—A hard, red wood of very fine grain, which grows chiefly on the Isthmus of Panama.

GENUINE EBONY—A hard, black wood of very fine grain, obtained chiefly from the East Coast of Africa and Madagaskar.

CELLULOID—A manufactured composition; produced either Transparent or in a great Variety of Colors. It may be made in Imitation of almost any of the other coverings which are used on the Knives except Nickel Silver.

LININGS—The Linings are of Nickel Silver, Brass or Steel, whichever is best adapted to the particular Knife on which it is used. The outside edges are Milled (or Knurled), in several of the more expensive patterns.

BOLSTERS—The Bolsters are, in the great majority of cases, of Nickel Silver, or in a few cases, on the heavier Knives, of Steel.

RIVETS—The Rivets are of Nickel Silver and Steel.

SHIELDS are made of Nickel Silver, in various shapes and sizes, as best adapted to each individual pattern.

BACK SPRINGS are made of Forged Steel, Uniformly Tempered, Carefully Fitted and Full Polished, as specified in the descriptions; some of the patterns have Fancy Hand Engraved Backs.

CARE OF A KNIFE—Much trouble is caused and many Knives prove unsatisfactory from the lack of proper care.

A well made Pocket Knife, is a piece of very fine mechanism, and should be kept cleaned and oiled at the joints as carefully as any other piece of fine mechanism. If this is done we are confident that every Pocket Knife bearing the *KEEN KUTTER* Brand will give the user complete and lasting satisfaction. If it does not, he is amply protected by the liberal guarantee which accompanies *KEEN KUTTER* Pocket Knives and all other *KEEN KUTTER* goods.

WE ABSOLUTELY GUARANTEE ALL *KEEN KUTTER* POCKET KNIVES AGAINST DEFECTS OF TEMPER OR FLAWS.

INFORMATION

REGARDING *KEEN KUTTER* POCKET KNIVES

PATTERNS OF HANDLES—A great variety of shapes and designs of Handles are used in this line, the principal ones of which, with the names by which they are most commonly known, are given below.

Anglo Saxon. Barlow. Budding. Corkscrew.

Regular Pen. Swell Center Pen. Serpentine Pen. Lobster.

Congress. Swell Center Congress. Senator. Shadow. Equal End Cattle.

Vaquero. Premium Stock. Physician's. Wharncliffe.

INFORMATION

REGARDING *KEEN KUTTER* POCKET KNIVES

PATTERNS OF HANDLES—A great variety of shapes and designs of Handles are used in this line, the principal ones of which, with the names by which they are most commonly known, are given below.

Balloon. Easy Opener. Crown Jack. Equal End Jack.

Fish Jack. Gun Stock. Jack. Regular Jack. Serpentine Jack.

Sway Back Jack. Swell Center Jack. Swell End Jack. Pruning.

KEEN KUTTER Pocket Knives are all made in our own factory at Walden, N. Y., the largest pocket knife factory in the world. America leads in manufacturing the finished knives, the blades for the *KEEN KUTTER* Pocket Knives are, made in America, of Highest Grade Crucible Steel.

NUMERICAL LIST OF POCKET KNIVES.

SHOWN IN THIS CATALOG.

No	Page	No	Page	No	Page	No	Page	No	Page
211	1940	K0753	1921	K2103	1941	K3785	1938	K4427	1941
K2	1942	K0757	1912	K2104	1922	K3794	1925	K4428	1941
K2	1942	K0765R	1922	K2106	1922	K3794	1925	K4429	1941
K [illegible]	1940	K0766	1920	K2109	1922	K3795	1926	K4434	1941
K [illegible]	1911	K0776	1920	K2110	1922	K3796	1926	K4437	1941
K [illegible]	1922	K0778	1938	K2 0[illegible]4	1921	K3796	1931	K4437	1941
K [illegible]	1922	K0[illegible]	1938	K2 0[illegible]4	1921	K3796	1931	K4437	1941
K [illegible]	1911	K0[illegible]7	1912	K2 0[illegible]4	1921	K3796	1931	K4437	1941
K [illegible]	1941	K0[illegible]	1911

—1912 POCKET KNIVES.

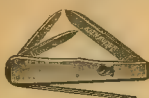
KEEN KUTTER

Highest Grade Crucible Steel Blades, Uniformly Tempered, SHARPENED AND WHETTED ON AN OIL STONE, BY HAND, READY FOR USE.

FOUR BLADES, 1 Large Spear Point, 1 Pen, 1 Nail Scissor and 1 Nail File, Full Polished; Nickel Silver Shield and Lining; Full Milled.
No. K4843—3¾ IN. PEARL HANDLE ..... Per Dozen, $110.00

THREE BLADES, 1 Large Spear Point, 1 Pen and 1 File; Full Polished; Full Milled; Nickel Silver Lining.
No. K3186—3 IN. PEARL HANDLE .....Per Dozen, $79.20

THREE BLADES, 1 Large Spear Point, 1 Pen and 1 Nail File, Full Polished; Nickel Silver Shield, Shackle and Lining.
No. K0643—3¼ IN. PEARL HANDLE ..... Per Dozen, $79.20



FOUR BLADES, 1 Large Spear Point, 2 Pen and 1 Nail File, Full Polished; Nickel Silver Tips and Shield; Nickel Silver Lining.
No. K357 3½ IN. PEARL HANDLE ..... Per Dozen, $80.00

THREE BLADES, 1 Large Spear Point, 1 Pen and 1 Nail File, Full Polished; Nickel Silver Lining.
No. K3626—3½ IN. PEARL HANDLE .....Per Dozen, $79.20

THREE BLADES, 1 Large Clip Point, 1 Small Clip Point and 1 Pen, Full Polished; Nickel Silver Bolsters, Shield and Lining, Milled Back.
No. K3213—3¾ IN. PEARL HANDLE .....Per Dozen, $65.00

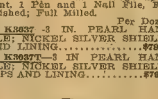
FOUR BLADES, 1 Large Clip, 1 Large Sheep Foot, 1 Large Spey Point and 1 Pen, Full Polished, Nickel Silver Bolsters and Shield; Milled Center Lining and Back.
No. K4420—4 IN. PEARL HANDLE .....Per Dozen, $92.50

No. K3037.

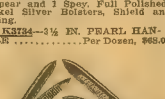
THREE BLADES, 1 Large Spear Point, 1 Pen and 1 Nail File, Full Polished; Full Milled.
Per Dozen
No. K3037 -3 IN. PEARL HANDLE; NICKEL SILVER SHIELD AND LINING.....$79.20
No. K3037T—3 IN PEARL HANDLE; NICKEL SILVER SHIELD, TIPS AND LINING.....$79.20

THREE LARGE BLADES, 1 Clip, 1 Spear and 1 Spey, Full Polished; Nickel Silver Bolsters, Shield and Lining.
No. K3734—3½ IN. PEARL HANDLE .....Per Dozen, $65.00

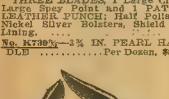
THREE BLADES, 1 Large Clip, 1 Large Spey Point and 1 PATENT LEATHER PUNCH, Half Polished; Nickel Silver Holsters, Shield and Lining.
No. K739½—3½ IN. PEARL HANDLE .....Per Dozen, $86.00



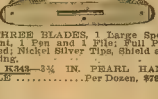
THREE BLADES, 1 Large Spear Point, 1 Pen and 1 File; Full Polished; Nickel Silver Tips, Shield and Lining.
No. K343—3¾ IN. PEARL HANDLE .....Per Dozen, $79.20



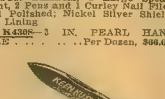
FOUR BLADES, 1 Large Spear Point, 2 Pens and 1 Curley Nail File, Full Polished; Nickel Silver Shield and Lining.
No. K4385—3 IN. PEARL HANDLE .....Per Dozen, $66.00



THREE LARGE BLADES, 1 Clip, 1 Sheep Foot and 1 Spey Point, Full Polished; Nickel Silver Bolsters and Shield.
Per Dozen
No. K3434—3¾ IN. PEARL HANDLE; Half Polished Blades. $83.50



THREE BLADES, 1 Large Spear Point, 1 Pen and 1 File, Full Polished; Nickel Silver Shield and Lining.
No. K3833—3¾ IN. PEARL HANDLE .....Per Dozen, $75.00



No. K02339

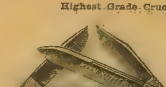
Full Polished Blades; Nickel Silver Tips, Shield and Lining.
Per Dozen
No. K2339—3¾ IN. PEARL HANDLE; TWO BLADES, 1 Large Spear Point and 1 Pen.....$56.50
No. K3239—3¾ IN. PEARL HANDLE; THREE BLADES, 1 Large Spear Point, 1 Pen and 1 File. $65.00

One half Dozen in a Cardboard Box; Weight per Dozen about 1½ lbs

—1913—
POCKET KNIVES.

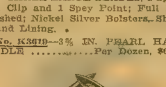
KEEN KUTTER

Highest Grade Crucible Steel Blades, Uniformly Tempered, SHARPENED AND WHETTED ON AN OIL STONE, BY HAND, READY FOR USE.



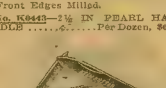
THREE LARGE BLADES, 1 Spear, 1 Clip and 1 Spey Point; Full Polished; Nickel Silver Bolsters, Shield and Lining.

No. K3419—3½ IN. PEARL HANDLE ..... Per Dozen, $96.00



THREE BLADES, 1 Large Spear Point, 1 Pen and 1 Nail File, Full Polished; Nickel Silver Lining; Front Edges Milled.

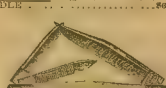
No. K3443—2⅛ IN. PEARL HANDLE ..... Per Dozen, $64.00



THREE BLADES, 1 Large Spear Point, 1 Pen and 1 Nail File, Full Polished; Nickel Silver Tips and Lining.

Per Dozen

No. K3228D—3½ IN. PEARL HANDLE $64.00



THREE BLADES, 1 Large Clip Point, 1 Pen and 1 File, Full Polished; Nickel Silver Bolsters and Lining.

Per Dozen

No. K3033½—3½ IN. PEARL HANDLE $64.00

No. K0233.

Full Polished Blades; Nickel Silver Lining.

Per Dozen

No. K0233—3¼ IN. PEARL HANDLE; TWO BLADES, 1 Large Spear Point and 1 Pen..... $61.50

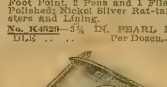
No. K3033—3¼ IN. PEARL HANDLE; THREE BLADES, 1 Large Spear Point, 1 Pen and 1 Curley Nail File 96.00

THREE BLADES, 1 Large Spear Point and 3 Pen, Half Polished; Nickel Silver Lining.

No. K3309—3¼ IN. PEARL HANDLE ..... Per Dozen, $61.50

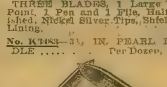
FOUR BLADES, 1 Large Sheep Foot Point, 2 Pens and 1 File, Half Polished; Nickel Silver Rat-tail Bolsters and Lining.

No. K4329—3¼ IN. PEARL HANDLE ..... Per Dozen, $61.50



THREE BLADES, 1 Large Spear Point, 1 Pen and 1 File, Half Polished, Nickel Silver Tips, Shield and Lining.

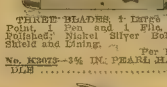
No. K1483—3¼ IN. PEARL HANDLE ..... Per Dozen, $61.50



THREE BLADES, 1 Large Spear Point, 1 Pen and 1 File, Half Polished; Nickel Silver Bolsters, Shield and Lining.

Per Dozen

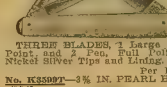
No. K3073—3¼ IN. PEARL HANDLE $61.50



THREE BLADES, 2 Large Spear Point, and 2 Pen, Full Polished; Nickel Silver Tips and Lining.

Per Dozen

No. K3599T—3¼ IN. PEARL HANDLE $61.50



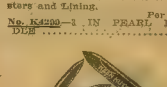
FOUR BLADES, 1 Large Spear Point, 2 Pen and 1 File, Full Polished, Nickel Silver Bolsters and Lining.

No. K4329—3 IN PEARL HANDLE; Per Dozen $58.50

FOUR BLADES, 3 Large Sheep Foot Point, 1 Pen and 1 File, Full Polished; Nickel Silver Rat Tail Bolsters and Lining.

Per Dozen

No. K4290—3 IN PEARL HANDLE $57.00



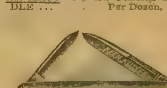
THREE BLADES, 1 Large Spear Point, 1 Pen and 1 File, Half Polished; Nickel Silver Bolsters, Shield and Lining.

Per Dozen

No. K3208—3¼ IN. PEARL HANDLE $57.20

TWO BLADES 1 Large Spear Point and 1 Pen, Full Polished, Nickel Silver Tips and Lining.

No. K3697T—3¼ IN. PEARL HANDLE ..... Per Dozen, $57.20



TWO BLADES, 1 Large Spear Point and 1 Pen, Full Polished; Nickel Silver Tips, Shield and Lining.

Per Dozen

No. K0233—3¼ IN. PEARL HANDLE $57.20

No. K0209R.

Nickel Silver Bolsters and Silver Lining.

Per Dozen

No. K0209R—3 IN PEARL HANDLE, TWO BLADES, 1 Large Spear Point and 1 Pen, Half Polished $35.50

No. K3009R—3 IN PEARL HANDLE; THREE BLADES, 1 Large Spear Point, 1 Pen and 1 Curley Nail File, Half Polished..... 49.50

One-half Dozen in a Cardboard Box, Weight per Dozen about 1½ lbs

—1914—
POCKET KNIVES.

KEEN KUTTER

Highest Grade Crucible Steel Blades, Uniformly Tempered, SHARPENED AND WHETTED ON AN OIL STONE, BY HAND, READY FOR USE.

TWO BLADES, 1 Large Spear Point and 1 Pen, Full Polished; Nickel Silver Bolster, Cap and Lining.

No. K2004—3⅛ IN. PEARL HANDLE ..... Per Dozen, $57.00

TWO BLADES, 1 Large Spear Point and 1 Pen; Full Polished; Nickel Silver Bolster, Cap, Shield and Lining.

Per Dozen

No. K2204—3½ IN. PEARL HANDLE $50.30

TWO BLADES, 1 Large Sheep Foot Point and 1 Pen, Half Polished; Nickel Silver Rat-tail Bolsters; Nickel Silver Lining.

Per Dozen

No. K0462—3¼ IN. PEARL HANDLE $50.50

TWO BLADES, 1 Large Spear Point and 1 Pen, Full Polished; Nickel Silver Bolsters and Lining.

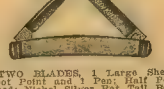
No. K0190—3⅝ IN. PEARL HANDLE .....Per Dozen, $50.50

TWO BLADES, 1 Large Spear Point and 1 File, Full Polished; Nickel Silver Tips and Lining; Full Milled.

No. K0153—3 IN. PEARL HANDLE; Per Dozen $44.00

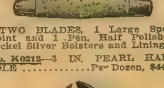
TWO BLADES, 1 Large Spear Point and 1 File, Full Polished; Nickel Silver Bolsters, Shield and Lining.

No. K0246S—3 IN PEARL HANDLE .....Per Dozen, $44.00



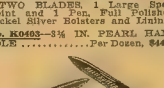
TWO BLADES, 1 Large Sheep Foot Point and 1 Pen; Half Polished; Nickel Silver Rat Tail Bolsters and Lining.

No. K0490—3 IN. PEARL HANDLE .....Per Dozen, $44.00



TWO BLADES, 1 Large Spear Point and 1 Pen, Half Polished; Nickel Silver Bolsters and Lining.

No. K0212—3 IN. PEARL HANDLE .....Per Dozen, $44.00

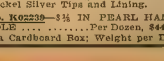


TWO BLADES, 1 Large Spear Point and 1 Pen, Full Polished, Nickel Silver Bolsters and Lining.

No. K0403—3½ IN. PEARL HANDLE .....Per Dozen, $44.00

TWO BLADES, 1 Large Spear Point and 1 Pen, Full Polished; Nickel Silver Tips and Lining.

No. K0488—3⅛ IN. PEARL HANDLE .....Per Dozen, $44.00



TWO BLADES, 1 Large Spear Point and 1 Pen, Full Polished; Nickel Silver Tips and Lining.

No. K0223S—3½ IN PEARL HANDLE .....Per Dozen, $44.00

TWO BLADES, 1 Large Spear Point and 1 Pen, Full Polished; Nickel Silver Tips, Shield and Lining.

No. K0853—3¼ IN. PEARL HANDLE .....Per Dozen, $42.00

TWO BLADES, 1 Large Spear Point and 1 Pen, Half Polished; Nickel Silver Bolster, Cap, Shield and Lining.

Per Dozen

No. K7WPC—3¼ IN. PEARL HANDLE; NICKEL SILVER CAP. $42.00

TWO BLADES, 1 Large Spear Point and 1 Pen, Full Polished; Nickel Silver Bolster and Lining.

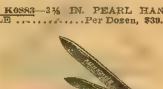
No. K022—2¾ IN. PEARL HANDLE .....Per Dozen, $42.00

TWO BLADES, 1 Large Spear Point and 1 Pen, Half Polished; Nickel Silver Bolsters and Lining.

No. K0725—2¾ IN. PEARL HANDLE .....Per Dozen, $37.50

TWO BLADES, 1 Large Spear Point and 1 Curley Nail File, Full Polished; Nickel Silver Bolsters, Shield and Lining.

No. K0883—3¼ IN. PEARL HANDLE .....Per Dozen, $39.50



TWO BLADES, 1 Large Spear Point and 1 Pen, Full Polished; Nickel Silver Bolster, Cap and Lining.

No. K711—3⅝ IN. CURVED PEARL HANDLE .....Per Dozen, $37.50

One-half Dozen in a Cardboard Box; Weight per Dozen about 2 lbs.

—1915—
POCKET KNIVES.

KEEN KUTTER

Highest Grade Crucible Steel Blades, Uniformly Tempered, SHARPENED AND WHETTED ON AN OIL STONE, BY HAND, READY FOR USE.

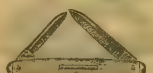
TWO BLADES, 2 Large Spear Point and 1 Pen, Half Polished; Nickel Silver Bolsters and Lining.

Per Dozen

No. K02820—3¾ IN. PEARL HANDLE $36.00

TWO BLADES, 1 Large Spear Point and 1 Pen, Full Polished; Nickel Silver Tips, Shield and Lining.

No. K27121—3¾ IN. PEARL HANDLE ..... Per Dozen, $33.00



TWO BLADES, 1 Large Spear Point and 1 Pen, Full Polished; Nickel Silver Tips, Shield and Lining.

Per Dozen

No. K0383—2½ IN. PEARL HANDLE $40.50

No. K033T.

TWO BLADES, 1 Large Spear Point and 1 Pen, Half Polished; Nickel Silver Tips and Lining.

Per Dozen

No. K033T—3¼ IN. PEARL HANDLE $40.50

TWO BLADES, 1 Pen and 1 File, Half Polished; Nickel Silver Bolsters and Lining.

Per Dozen

No. K013—2¾ IN PEARL HANDLE $28.50

TWO BLADES, 1 Large Spear Point and 1 Pen, Full Polished.

No. K0814—3 IN. NICKEL SILVER HANDLE ..... Per Dozen, $22.00

THREE BLADES, 1 Large Spear Point and 3 Pens, Half Polished; Nickel Silver Bolsters, Shield and Lining.

No. K3018—3½ IN. STAG HANDLE ..... Per Dozen, $35.20

TWO BLADES, 1 Large Spear Point and 1 Pen, Half Polished; Nickel Silver Bolsters and Shield; Brass Lining.

No. K03018—3½ IN. STAG HANDLE ..... Per Dozen, $20.50

PHYSICIAN'S PATTERN.

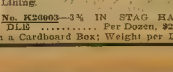
TWO BLADES, 1 Large Spear Point and 1 Pen, Full Polished; Nickel Silver Cap and Bolster; Brass Lining.

Per Dozen

No. K2003—3¾ IN. STAG HANDLE $28.50

TWO BLADES, 1 Large Spear Point and 1 Pen, Half Polished; Nickel Silver Bolster, Cap and Shield; Brass Lining.

No. K22203—3½ IN. STAG HANDLE ..... Per Dozen, $26.50



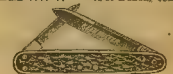
TWO BLADES, 1 Large Spear Point and 1 Pen, Full Polished; Nickel Silver Bolster and Cap; Brass Lining.

No. K20003—3½ IN. STAG HANDLE ..... Per Dozen, $28.50

One half Dozen in a Cardboard Box; Weight per Dozen about 1½ lbs.

THREE BLADES, 1 Large Spear Point, 1 Pen and 1 Nail File on Back, Full Polished; Nickel Silver Tips, Shield and Lining

No. K3030T—3 IN. STAG HANDLE ..... Per Dozen, $32.80



THREE BLADES, 1 Large Spear, 1 Pen and 1 Nail File on Back, Full Polished; Nickel Silver Lining and Bezel.

Per Dozen

No. K3040S—3½ IN. FIBRE STAG HANDLE $32.80

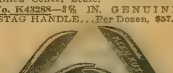
TWO BLADES, 1 Large Spear Point and 1 File, Full Polished; Nickel Silver Tips and Lining.

Per Dozen

No. K0151—3 IN. STAG HANDLE ..... Per Dozen, $35.20

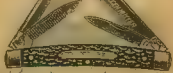
FOUR BLADES, 1 Large Sheep Foot Point, 3 Pens and 1 File, Full Polished; Nickel Silver Bolsters, Shields on Both Sides and Lining; Milled Center Scale.

No. K4288—3½ IN. GENUINE STAG HANDLE. Per Dozen, $37.00



FOUR BLADES, 2 Large Sheep Foot Points and 2 Pens, Half Polished; Nickel Silver Rat Tail Bolsters and Shield; Brass Lining.

No. K4478—4½ IN. STAG HANDLE ..... Per Dozen, $42.00



FOUR BLADES, 1 Large Sheep Foot, 2 Pens and 1 File, Half Polished; Nickel Silver Bolsters and Shield; Brass Lining.

No. K4323—3½ IN. STAG HANDLE ..... Per Dozen, $33.20

—1916—

POCKET KNIVES.

KEEN KUTTER

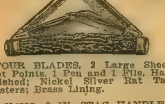
Highest Grade Crucible Steel Blades, Uniformly Tempered, SHARPENED AND WHETTED ON AN OIL STONE, BY HAND, READY FOR USE.

FOUR BLADES, 2 Large Sheep Foot Points and 2 Pens, Half Polished; Nickel Silver Rat Tail Bolsters and Shield; Brass Lining.

No. K4577—3½ IN. STAG HANDLE . . . . . Per Dozen, $39.50

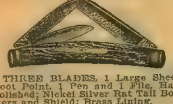
FOUR BLADES, 1 Large Sheep Foot Point, 1 Pen and 1 File, Half Polished; Nickel Silver Rat Tail Bolsters and Shield; Brass Lining.

No. K4527—3¼ IN. STAG HANDLE . . . . . Per Dozen, $39.50



FOUR BLADES, 2 Large Sheep Foot Points, 1 Pen and 1 File, Half Polished; Nickel Silver Rat Tail Bolsters; Brass Lining.

No. K4297—3 IN. STAG HANDLE; Per Dozen.....$35.20



THREE BLADES, 1 Large Sheep Foot Point, 1 Pen and 1 File, Half Polished; Nickel Silver Rat Tail Bolsters and Shield; Brass Lining.

No. K3927—3¼ IN. STAG HANDLE . . . . . Per Dozen, $33.00

TWO BLADES, 1 Large Sheep Foot Point and 1 Pen, Half Polished, Nickel Silver Rat Tail Bolsters and Shield; Brass Lining

No. K4527—3¼ IN. GENUINE-STAG HANDLE...Per Dozen, $26.50

TWO BLADES, 1 Large Sheep Foot Point and 1 Pen, Glazed Finish; Polished Steel Rat Tail Bolsters; Brass Lining.

No. K6878—3¾ IN. STAG HANDLE ....Per Dozen, $23.00

TWO BLADES, 1 Large Sheep Foot Point and 1 Pen, Half Polished; Nickel Silver Rat Tail Bolsters, Brass Lining.

No. K6468—3 IN. STAG HANDLE; Per Dozen..... .... .. $22.00

TWO BLADES, 1 Large Sheep Foot Point and 1 Pen, Glazed Finish; Nickel Silver and Rat Tail Bolsters; Brass Lining.

No. K6427—3¼ IN. STAG HANDLE .... ..Per Dozen, $22.00

THREE LARGE BLADES, 1 Clip, 1 Sheep Foot and 1 Spey, Half Polished; Nickel Silver Bolsters and Shield; Brass Lining.

No. K3825—4 IN. BLACK CELLULOID HANDLE...Per Dozen, $39.50

THREE LARGE BLADES, 1 Clip, 1 Sheep Foot and 1 Spey, Half Polished; Nickel Silver Bolsters, Brass Lining.

Per Dozen

No. K3826—4 IN. RED AND WHITE CELLULOID HANDLE.....$39.50

THREE LARGE BLADES, 1 Clip, 1 Sheep Foot and 1 Spey, Half Polished; Nickel Silver Bolsters and Shield; Nickel Silver Lining.

No. K3822—4 IN. STAG HANDLE .....Per Dozen, $37.50

No. K7423.

Nickel Silver Bolsters and Shield; Brass Lining; Half Polished Blades.

Per Dozen

No. K7423—3¾ IN. STAG HANDLE, THREE BLADES, 1 Large Spear, 1 Large Clip and 1 Large Spey $35.20

No. K7423—3¾ IN. STAG HANDLE, TWO BLADES, 1 Large Clip Point and 1 Pen..... 26.50

TWO LARGE BLADES, 1 Clip and 1 Spey, Half Polished; Nickel Silver Bolsters and Shield; Nickel Lining.

No. K9724S—3¾ IN. STAG HANDLE .....Per Dozen, $26.50

Four Blades, 1 Large Clip, 1 Large Sheep Foot, 1 Large Spey Point and 1 Pen, Full Polished; Nickel Silver Bolsters and Shield; Brass Lining.

No. K4428—4 IN. STAG HANDLE .....Per Dozen, $42.00

One-half Dozen in a Cardboard Box; Weight per Dozen about 2 lbs.

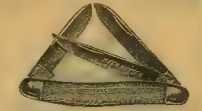
—1917—
POCKET KNIVES.

KEEN KUTTER

Highest Grade Crucible Steel Blades, Uniformly Tempered, SHARPENED AND WHETTED ON AN OIL STONE, BY HAND, READY FOR USE.

THREE LARGE BLADES, 1 Clip, 1 Sheep Foot and 1 Spey, Half Polished; Nickel Silver Bolsters and Shield; Brass Lining.

No. K3433—4 IN. STAG HANDLE; Per Dozen.....$37.50



THREE LARGE BLADES, 1 Clip, 1 Spear and 1 Spey; Full Polished; Nickel Silver Bolsters; Brass Lining.

Per Dozen

No. K3732—3½ IN. GOLDEN AMBER CELLULOID HANDLE..$37.50

THREE LARGE BLADES, 1 Clip, 1 Spear and 1 Spey; Full Polished; Nickel Silver Bolsters and Shield; Milled Center Linings and Back.

Per Dozen

No. K3733—3½ IN. STAG HANDLE.....$35.20

THREE LARGE BLADES, 1 Spear, 1 Sheep Foot and 1 Spey Point, HALF POLISHED; Polished Steel Bolsters; Nickel Silver Shield; Brass Lining.

No. K33721—3¾ IN. STAG HANDLE.....Per Dozen, $35.20

THREE BLADES, 1 Large Spear Point, 1 Large Spey and 1 Pen, Half Polished; Nickel Silver Bolsters and Shield; Brass Lining.

No. K33628—3 IN. STAG HANDLE.....Per Dozen, $32.00

One-half Dozen in a Cardboard Box; Weight per Dozen about 1½ lbs.

TWO LARGE BLADES, 1 Clip and 1 Spey, Half Polished; Nickel Silver Bolsters and Shield; Brass Lining.

No. K3433—4 IN. STAG HANDLE; Per Dozen.....$35.20

THREE BLADES, 1 Large Spear Point, 1 Pen and 1 Curley Nail File; Full Polished; Nickel Silver Tips, Shield and Lining

No. K341—3¼ IN. STAG HANDLE.....Per Dozen, $39.50

No. K3471.

Half Polished Blades, Nickel Silver Tips and Shield; Brass Lining.

Per Dozen

No. K3471—3¾ IN. STAG HANDLE; THREE BLADES, 1 Large Spear Point, 1 Pen and 1 File.$32.00

No. K447—3¾ IN. STAG HANDLE; FOUR BLADES, 1 Large Spear Point, 2 Pens and 1 File 37.50

TWO BLADES, 1 Large Spear Point and 1 Pen, Full Polished; Nickel Silver Tips, Shield, Shackle and Lining.

No. K6625P—3¼ IN. STAG HANDLE.....Per Dozen, $35.20

TWO BLADES, 1 Large Spear Point and 1 Pen, Half Polished; Brass Lining.

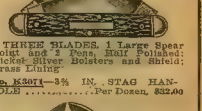
No. K03341—3½ IN. STAG HANDLE.....Per Dozen, $21.00

THREE BLADES, 1 Large Clip, 1 Small Spey and 1 Pen, Half Polished; Nickel Silver Bolsters and Shield; Brass Lining.

No. K3071¾—3¾ IN. STAG HANDLE.....Per Dozen, $32.00

THREE BLADES, 1 Large Spear Point and 2 Pens, Half Polished; Nickel Silver Bolsters and Shield; Brass Lining.

No. K3672—3¾ IN. EBONY HANDLE.....Per Dozen, $32.00



THREE BLADES, 1 Large Spear Point and 2 Pens, Half Polished; Nickel Silver Bolsters and Shield; Brass Lining.

No. K3671—3¾ IN. STAG HANDLE.....Per Dozen, $32.00

TWO BLADES, 1 Large Spear Point and 1 File, Half Polished, Nickel Silver Tips and Shackle; Brass Lining.

No. K3471/8—3¾ IN. STAG HANDLE.....Per Dozen, $26.50

TWO BLADES, 1 Large Spear Point and 1 Pen, Half Polished, Nickel Silver Bolsters; Brass Lining.

No. K6297C—3¾ IN. CELLULOID SHELL HANDLE.Per Dozen, $25.30

TWO BLADES, 1 Large Spear Point and 1 Pen, Half Polished; Nickel Silver Bolsters and Shield; Brass Lining.

No. K02972—3¾ IN. EBONY HANDLE.....Per Dozen, $23.00

–1918–
POCKET KNIVES.

KEEN KUTTER

Highest Grade Crucible Steel Blades, Uniformly Tempered, SHARPENED AND WHETTED ON AN OIL STONE, BY HAND, READY FOR USE.

TWO BLADES, 1 Large Spear Point and 1 Pen, Half Polished; Nickel Silver Tips; Brass Lining.

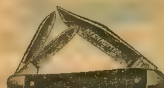
No. K02471—3¾ IN. STAG HANDLE .. .. Per Dozen, **$24.00**

TWO BLADES, 1 Large Spear Point and 1 Pen, Glazed Finish; Nickel Silver Bolsters and Shield; Brass Lining.

No. K02071—3¾ IN. STAG HANDLE .. ..Per Dozen, **$23.00**

TWO BLADES, 1 Large Spear Point and 1 Pen, Glazed Finish; Nickel Silver Bolsters and Shield; Brass Lining.

No. K02423—3¾ IN. STAG HANDLE . .....Per Dozen, **$22.00**



THREE BLADES, 1 Large Clip and 2 Pens, Half Polished; Nickel Silver Bolsters; Brass Lining.

Per Dozen
No. K32430¾—3¾ IN. BLACK CELLULOID HANDLE..... **$33.00**

THREE BLADES, 1 Large Spear Point, 1 Pen and 1 Nail File, Half Polished Blade; Nickel Silver Tips; Brass Lining.

No. K32237—3 IN. STAG HANDLE .. .. . .Per Dozen, **$33.00**

THREE BLADES, 1 Large Spear Point, 1 Pen and 1 File, Half Polished Blade; Nickel Silver Shield, Tips and Lining.

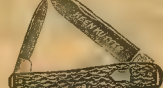
No. K32337—3¾ IN. STAG HANDLE .... Per Dozen, **$32.00**

THREE BLADES, 1 Large Spear Point, 1 Pen and 1 File, Half Polished; Nickel Silver Bolsters and Shield; Brass Lining.

No. K32437—3¾ IN. STAG HANDLE .. ..Per Dozen, **$32.00**

TWO BLADES, 1 Large Clip and 1 Pen, Half Polished; Nickel Silver Bolsters; Brass Lining.

Per Dozen
No. K02434¾—3 ¾ IN. BLACK CELLULOID HANDLE.....**$26.50**

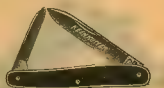


TWO BLADES, 1 Large Spear Point and 1 Pen, Half Polished; Nickel Silver Tips and Shield; Brass Lining.

No. K02337—3¾ IN. STAG HANDLE .. ..Per Dozen, **$26.50**

TWO BLADES, 1 Large Clip and 1 Pen, Half Polished; Nickel Silver Bolsters and Shield; Brass Lining.

No. K02437¾—3¾ IN. STAG HANDLE .. ..Per Dozen, **$26.50**



No. K02736.

TWO BLADES, 1 Large Spear Point and 1 Pen, Half Polished; Nickel Silver Lining and Bezel.

Per Dozen
No. K02736—3½ IN. SMOOTH FIBRE HANDLE.....**$24.00**
No. K02737—3¾ IN. STAG HANDLE **24.00**

TWO BLADES, 1 Large Spear Point and 1 Pen, Half Polished, Nickel Silver Tips; Brass Lining.

No. K02237—3 IN. STAG HANDLE .. ..Per Dozen, **$23.00**

THREE BLADES, 1 Large Clip Point, 1 Small Sheep Foot and 1 Pen, Half Polished; Nickel Silver Bolsters and Shield; Brass Lining.

No. K32974—3¾ IN STAG HANDLE .. ..Per Dozen, **$35.20**

THREE BLADES, 1 Large Spear Point and 2 Pens, Half Polished; Nickel Silver Tips; Brass Lining.

No. K36837—3¾ IN. STAG HANDLE .. ..Per Dozen, **$32.00**

TWO LARGE BLADES, 1 Spear and 1 Spey Point, Half Polished Nickel Silver Bolsters and Shield; Brass Lining.

No. K03683¾—3¾ IN. STAG HANDLE .. ..Per Dozen, **$26.50**

One-half Dozen in a Cardboard Box; Weight per Dozen about 2 lbs

—1919—

POCKET KNIVES.

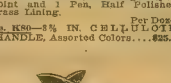
KEEN KUTTER

Highest Grade Crucible Steel Blades, Uniformly. Tempered, SHARPENED AND WHETTED ON AN OIL STONE, BY HAND, READY FOR USE.

TWO BLADES, 1 Large Spear Point and 1 Pen, Half Polished; Brass Lining.

Per Dozen

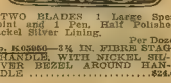
No. K80—3¾ IN. CELLULOID HANDLE, Assorted Colors....$25.20



TWO BLADES 1 Large Spear Point and 1 Pen, Half Polished; Nickel Silver Lining.

Per Dozen

No. K03866—3¾ IN. FIBRE STAG HANDLE, WITH NICKEL SILVER BEZEL AROUND HANDLE $24.00



TWO BLADES, 1 Large Spear Point and 1 Pen; Glazed Finish; Nickel Silver Tips; Brass Lining.

Per Dozen

No. K0251T—3¾ IN. STAG HANDLE .....Per Dozen, $25.00

No. K0198.

Nickel Silver Bolsters and Shield; Brass Lining.

TWO BLADES, 1 Large Spear Clip and 1 Small Spey, Glazed Finish.

Per Dozen

No. K0198—3¾ IN. STAG HANDLE $23.00

No. K0196—3¾ IN. EBONY HANDLE 25.00

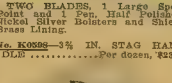
TWO BLADES, 1 Large Spear Point and 1 Small Spey, Glazed Finish.

Per Dozen

No. K0198½—3¾ IN. STAG HANDLE $23.00

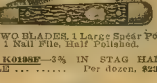
TWO BLADES, 1 Large Spear Point and 1 Pen, Half Polished; Nickel Silver Bolsters and Shield; Brass Lining.

No. K0598—3¾ IN. STAG HANDLE .....Per dozen, $23.00



TWO BLADES, 1 Large Spear Point and 1 Nail File, Half Polished.

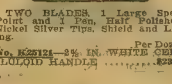
No. K0198E—3¾ IN STAG HANDLE ..... Per dozen, $23.00



TWO BLADES, 1 Large Spear Point and 1 Pen, Half Polished; Nickel Silver Tips, Shield and Lining.

Per Dozen

No. K2512½—3¾ IN. WHITE CELLULOID HANDLE $23.00



TWO BLADES, 1 Large Spear Point and 1 Pen, Half Polished; Nickel Silver Bolsters, Brass Lining.

No. K0257—3¾ IN. STAG HANDLE .....Per Dozen, $21.00

THREE BLADES, 1 Large Clip Point, 1 Small Clip Point and 1 Pen, Half Polished; Nickel Silver Bolsters and Shield; Brass Lining.

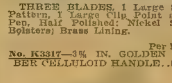
Per Dozen

No. K3316—3¾ IN. BUFFALO HORN HANDLE.....$37.50

THREE BLADES, 1 Large Saber Pattern, 1 Large Clip Point and 1 Pen, Half Polished; Nickel Silver Bolsters; Brass Lining.

Per Dozen

No. K3317—3¾ IN. GOLDEN AMBER CELLULOID HANDLE..$37.50



THREE BLADES, 1 Large Clip Point, 1 Small Clip Point and 1 Pen, Half Polished; Nickel Silver Bolsters and Shield; Brass Lining.

Per Dozen

No. K3311—3¾ IN. STAG HANDLE .....Per Dozen, $35.20

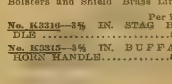
No. K3316.

THREE BLADES, 1 Large Saber Pattern and 1 Large Clip Point and 1 Pen, Half Polished; Nickel Silver Bolsters and Shield Brass Lining.

Per Dozen

No. K3316—3¾ IN. STAG HANDLE $35.20

No. K3315—3¾ IN. BUFFALO HORN HANDLE.....$37.50



No. K03311.

TWO BLADES, 1 Large Clip Point and 1 Pen, Half Polished, Nickel Silver Bolsters and Shield; Brass Lining.

Per Dozen

No. K03311—3¾ IN. STAG HANDLE $26.50

No. K03314—3¾ IN. EBONY HANDLE 26.50

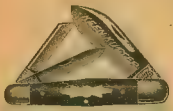
One-half Dozen in a Cardboard Box; Weight per Dozen about 1¼ lbs.

—1920—

POCKET KNIVES.

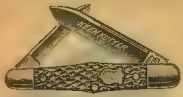
KEEN KUTTER.

Highest Grade Crucible Steel Blades, Uniformly Tempered, SHARPENED AND WHETTED ON AN OIL STONE, BY HAND, READY FOR USE.



THREE BLADES, 1 Large Spear Point and 2 Pens, Half Polished; Nickel Silver Bolsters and Shield; Brass Lining.

No. K368R—3¾ IN. EBONY HANDLE ..... Per Dozen, $35.20



TWO BLADES, 1 Large Spear Point and 1 Pen, Half Polished; Nickel Silver Bolsters and Shield; Brass Lining.

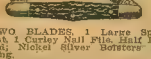
No. K307R—3¼ IN. STAG HANDLE ..... Per Dozen, $24.00

TWO BLADES, 1 Large Spear Point and 1 Pen, Half Polished; Nickel Silver Bolsters and Shield; Brass Lining.

No. K365R—3¼ IN. COCOBOLO HANDLE ..... Per Dozen, $24.00

TWO BLADES, 1 Large Clip and 1 Small Clip, Half Polished; Nickel Silver Bolsters and Shield; Brass Lining.

No. K448834—3½ IN. STAG HANDLE ..... Per Dozen, $26.50



TWO BLADES, 1 Large Spear Point, Curley Nail Pick, Half Polished; Nickel Silver Bolsters and Lining.

No. K63386F—3¾ IN STAG HANDLE ..... Per Dozen, $22.00

THREE BLADES, 1 Large Spear Point, 1 Pen and 1 File, Half Polished; Nickel Silver Bolsters and Shield; Brass Lining.

No. K3307R—3 IN. STAG HANDLE, Per Dozen $30.80

No K01161.

TWO BLADES, 1 Large Spear Point and 1 Pen, Half Polished; Nickel Silver Bolsters; Brass Lining

No. K01161—2⅞ IN. STAG HANDLE ..... Per Dozen, $28.00

No. K01111—3¼ IN. STAG HANDLE ..... Per Dozen, 23.00

TWO BLADES, 1 Large Spear Point and 1 Pen, Half Polished; Nickel Silver Bolster and Lining.

No. K0207R—3 IN. STAG HANDLE ..... Per Dozen, $22.00

TWO BLADES, 1 Large Spear Point and 1 Pen, Half Polished; Nickel Silver Tips; Brass Lining.

No. K0486—2⅞ IN. STAG HANDLE ..... Per Dozen, $22.00

No. K01881.

TWO BLADES, 1 Large Spear Point and 1 Pen, Half Polished; Nickel Silver Bolsters and Shield; Brass Lining.

No. K01881—3¼ IN. STAG HANDLE ..... Per Dozen, $22.00

No. K01882—3¼ IN. EBONY HANDLE 22.00

THREE BLADES, 1 Large Clip Point and 2 Pens, Half Polished; Nickel Silver Bolsters and Shield; Brass Lining.

No. K3088¾—3½ IN. STAG HANDLE ..... Per Dozen, $35.20

TWO BLADES, 1 Spear and 1 Clip Point, Glazed Finish, Nickel Silver Bolsters and Shield; Brass Lining.

No. K034S—3½ IN. STAG HANDLE ..... Per Dozen, $25.30

TWO BLADES, 1 Large Spear Point and 1 Pen, Glazed Finish; Nickel Silver Shield and Bolsters; Brass Lining.

No. K008S—3½ IN. STAG HANDLE ..... Per Dozen, $22.00

No. K0271.

TWO BLADES, 1 Large Spear Point and 1 Pen, Half Polished; Nickel Silver Bolsters and Shield; Brass Lining.

No. K0271—3½ IN. EBONY HANDLE $25.30

No. K0273—3½ IN. STAG HANDLE 25.30

One-half Dozen in a Cardboard Box; Weight per Dozen about 1½ lbs.

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE.

Regular equipment on Avery Tractors, Eagle Tractors, Howell Tractors, La Crosse Tractors, Maytag Washing Machines, Pioneer Tractors, Swartz Lighting Plants. Recommended for **FORD** Overland and Studebaker cars or any motor using ⅛ inch regular plugs.

CARBON PROOF.

Here is the latest addition to the A. C. Spark Plug family.

It is not an ordinary spark plug, but on the other hand represents by far the most important development ever made for the benefit of **FORD** owners, as it will rid them permanently of the chronic spark plug troubles which are a source of constant annoyance.

This plug differs from anything else in the line in that the insulator is made of a new porcelain which will not crack and is far superior electrically as it will not allow the current to leak through the porcelain.

The new porcelain performs its function of delivering the entire spark to the contact points, while with the ordinary porcelain a large proportion of the current leaks through the porcelain and the spark if delivered at all is so weak it will not properly ignite the charge. This is responsible for motors missing at high speed, jerking at low speed and losing power when hot.

It is a well known and established fact that a deposit of carbon on the smooth surface of the porcelain is what causes a short circuit. The porcelain in this plug is provided with a number of ribs with saw tooth edges which attain a high degree of heat and burn away the carbon, thereby keeping the edges free from deposits and breaking up any possible chance of a short circuit.

NO. 521 In single lots..	Net Each $1.30
In lots of 10 to 99 . .	1.16
In lots of 100. ..	1.12
In lots of 1000. ..	1.08

Weight ¼ lb

SECTIONAL VIEW NOTE CONSTRUCTION.

The center electrode is screwed into the porcelain in order to apply pressure on the copper asbestos gasket and prevent any possible leakage. It is secured with cement and cannot loosen.

"A-C-Titan" porcelains never break at this shoulder like ordinary plugs as our new process distributes the pressure evenly.

Single electrode gives a smooth running motor. Its special shape prevents spark gap from changing under heat.

Note perfect fit of gasket on full width between Porcelain and metal body. This feature makes the plug absolutely gas tight under all conditions

AC

Spark Plugs

The Standard Quality Plugs of the World

"A-C-TITAN."

The standard Spark Plug of America. A quality article through and through. Adopted as regular equipment by the majority of leading manufacturers. Special types for all the principal cars. All motors are more efficient when "A. C." equipped.

Factory equipment on Acme Truck, American LaFrance, Anderson, Abbott Detroit, Buick 4 Model 35, Brockway Truck, Cadillac, Chalmers, Cole, Continental, Davis, Diamond T Truck, Empire, Gilde, G. M. C., Gramm Bernstein, Hatfield, Jeffery, Jordan, Kissel Kar, M. H. C., Menominee, National, Neteo Trucks, Oakland 8, Oldsmobile, Packard, Peerless, Pahana, Pierce-Arrow, Sandow Truck, Sanford Truck, Signal Truck, Sterling Truck, Stewart Trucks, Stutz, Velie, Westcott.

NO. 509—⅞-inch A. L. A. M. thread	Net Each $1.30
In lots of 10 to 99 . .	1.16
In lots of 100.....	1.12
In lots of 1000 ...	1.08

Weight ¼ lb.

Factory equipment on Ree Cars and Trucks; also Lincoln Trucks.

NO. 510—⅞-inch long. Standard thread, recommended for Overland up to 1914, and Winton up to 1915	Net Each $1.30
In lots of 10 to 99..	1.16
In lots of 100 .	1.12
In lots of 1000	1.08

Weight ¼ lb.

Factory equipment on Buick, Chalmers 32, Chevrolet, Knox, Samson Trucks, Scripps Booth, Enger 12, McLaughlin (Canada), and Wolverine Tractor.

NO. 511—⅞ A. L. A. M. Long, one of the largest sellers.....	Net Each $1.30
In lots of 10 to 99..	1.16
In lots of 100...	1.12
In lots of 1000.....	1.08

Weight ¼ lb.

"A-C-TITAN."

Factory equipment on Crane Simplex, Jackson, Stephens, White, Chandler, Moreland Truck, National.

NO. 512—⅞-inch A. L. A. M Long Body, made for motors requiring longer body plug to be accessible	Net Each $1.30
In lots of 10 to 99	1.16
In lots of 100....	1.12
In lots of 1000 ..	1.08

Weight 6 oz.

Factory equipment on Apperson 6, Daniels, Disbrow, Gabriel Truck, Haynes, Lexington-Howard, Locomobile, McFarland, Marmon, Maxim Truck, Murray, Old Reliable Truck, Pathfinder Rixer Truck, Singer, Scripps Motors, Stearns Knight.

NO. 513—Regular S. A. E. or A. L. A. M. Standard ⅞ inch, 18 thread, small body. ⅞ inch Hexagon. .	Net Each $1.30
In lots of 10 to 99	1.16
In lots of 100....	1.12
In lots of 1000	1.08

Weight ¼ lb.

Factory equipment on Monroe, Oakland 32, Apperson 8, Premier, Oldsmobile Model 37, Mercer, Nash 6.

NO. 514—Long S. A. E. or A. L. A. M Same characteristics as the regular S. A. E., but has longer shell for motors requiring extension plug....	Net Each $1.30
In lots of 10 to 99..	1.16
In lots of 100.....	1.12
In lots of 1000.....	1.08

Weight 6 oz.

Regular equipment on Oakland 34-B, Oldsmobile 6-cyl., Premier, Seneca, all Nash cars up to 1918, 1919 Nash cars using Extra Long SAE Titan.

NO. 523—S. A. E. Extra Long	Net Each $1.30
In lots of 10 to 99..	1.16
In lots of 100.....	1.12
In lots of 1000...	1.08

Weight 6 oz

DODGE SPECIAL.

Slightly longer than ⅞ Reg. Made especially for Dodge Bros. Exclusive equipment on all their cars.

NO. 524—⅞ inch	Net Each $1.30
In lots of 10 to 99 .	1.16
In lots of 100..	1.12
In lots of 1000...	1.08

Weight ¼ lb.

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE.

A. C. TITAN SPARK PLUGS.

Regular equipment on Essex. Recommended for Pierce-Arrow, 1915; all cars using Metric Plugs.

	Net Each
NO. 522—Regular metric. Single lots	$1.20
Lots of 10 to 99	1.16
Lots of 100	1.12
Lots of 1000	1.08

SPARK PLUGS. "A-C-STANDARD."

Before placing the Titan and Cleo Plugs on the market, the separable two-piece plug was the most successful with the manufacturer, due to its efficiency, and is today the best separable plug made. A. C. Plugs are absolutely gas tight when new, but can be taken apart and assembled any number of times without losing this property as the packing cannot be spoiled by tightening.

Two-piece carbon proof porcelain. Recommended for **FORD**, Studebaker and Overland.

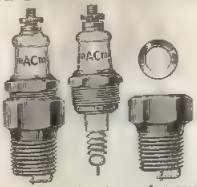
	Net Each
NO. 515—½ inch standard— Single lots	$1.20
Lots of 10 to 99	1.08
Lots of 100	1.04
Lots of 1000	1.00

Two-Piece.

	Net Each
NO. 516—⅝ inch, A. L. A. M., S. A. E. body Single lots	$1.20
Lots of 10 to 99	1.08
Lots of 100	1.04
Lots of 1000	1.00

	Net Each
NO. 518—⅞ inch long. Buick regular equipment up to 1914	$1.20
Lots of 10 to 99	1.08
Lots of 100	1.04
Lots of 1000	1.00

A. C. TRACTOR PLUGS.



Two-piece tractor plug, carbon proof porcelain. For all tractors using standard plugs.

	Net Each
NO. 525—½ inch—	
NO. 527—⅞ inch— Single lots	$1.50
Lots of 10 to 99	1.32
Lots of 100	1.28
Lots of 1000	1.24

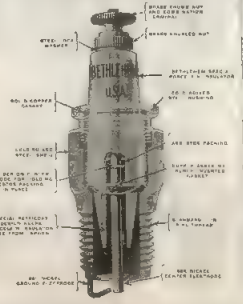
SPECIAL TERMINALS.

Any of these terminals can be supplied with "A-C" Spark Plugs on special request. No charge.

BETHLEHEM SPARK PLUGS.

Are constructed of the highest quality raw materials obtainable. All electrodes contain 98 per cent nickel. Porcelain cores on authorative tests have exhibited three times the insulating strength and nine times greater tensile strength than other porcelains. Only India Ruby Mica is used. Steel parts are constructed of cold drawn bars. The result—a perfect spark plug, combined with their rigid policy of trade protection, make Bethlehems a most profitable line for the dealer.

PETTICOAT CONSTRUCTION.


BRASS SHELL NUT AND CORE NIPPLE (NICKEL)
STEEL NUT (NICKEL)
BRASS KNURLED NUT
BETHLEHEM SPECIAL MICA "I" INSULATION
60% COPPER GASKET
GOLD PLATED STEEL SHELL
ASBESTOS PACKING
BRASS SHELL NUT
NICKEL STEEL HEXAGON
SPECIAL PETTICOAT PORCELAIN INSULATOR, FORCED TO INSULATION FREE FROM GASES
NICKEL STEEL CENTER ELECTRODE

BETHLEHEM SPARK PLUGS.

SPECIAL FOR FORD.

One-half inch, special for **FORD**—½ inch hex.—petticoat insulator—extra heavy porcelain for overcoming oil condition. Special mixture steel alloy used for electrodes for best conduction and resistance against heat.

	Net Each
NO. 1—½ inch	$0.88
Lots of 100	.82
Lots of 500	.78
Lots of 1000	.74

SPECIAL FOR CHANDLER AND OTHERS.

⅞-18 with long body—1¼ inch hex. for Chandler, Hoyt, Moreland, Old Model White, Titan Trucks and Robinson Fire Trucks.

	Net Each
NO. 27—⅞ long	$1.20
Lots of 100	1.16
Lots of 500	1.06
Lots of 1000	1.00

SPECIAL FOR BUICK.

⅞-18 long, 1¼ inch hex, special for Buick. This type fits all model Buicks and is supplied with thumb nut "B." (Old type Buick Spark Plugs will not fit latest model Buick car.)

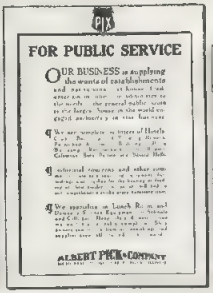
	Net Each
NO. 29—⅞-18 long	$1.20
Lots of 100	1.16
Lots of 500	1.06
Lots of 1000	1.00

ESSEX SPECIAL.

Metric, 1 inch hex, for Essex, White Truck, Pierce-Arrow 1915, and Pearless 1916; special for motorcycles and foreign cars.

	Net Each
NO. 10—Metric	$1.20
Lots of 100	1.16
Lots of 500	1.06
Lots of 1000	1.00

FURNISHINGS, EQUIPMENT & SUPPLIES



Industrial Cafeterias. Our engineering departments will design a complete Cafeteria that will fill your requirements. We have standardized outfits accommodating from 25 to 500 people. Ask for Book WJ61

We carry a complete line of equipment and supplies for Dining Cars

Lunch Rooms. We specialize in the equipment for Commercial Lunch Rooms and Restaurants of all kinds. Our service includes the complete planning and installation of all equipment Ask for Book WJ11.

Soda Parlors. Our catalogs list a complete line of fixtures and equipment for the Soda Parlor.

WRITE FOR CATALOGS

Catalog WJ23	General Catalog of Furnishings, Equipment and Supplies
Catalog WJ39	Catalog of Soda Fountains and Supplies
Catalog WJ64	Catalog of Billiard and Club Room Equipment
Book WJ11	Equipment for Restaurants, Cafeterias, Lunch Rooms and Dining Rooms
Book WJ61	Industrial Lunch Rooms Rest Rooms and Clubs
Book WJ11	Hotel Club and Institution Installations
Book WJ121	Club Room Furnishings and Equipment
Book WJ122	Barber Shop Equipment.
Book WJ123	Laundry Equipment.
Book WJ124	Bakery Equipment.
Book WJ125	Refrigerators
Book WJ126	Show Cases
Book WJ127	Kitchen Equipment.
Book WJ129	Interior Decorating and Special Furnishings.
Book WJ130	Wall Beds.

Club Rooms. We will decorate, furnish and equip complete Y.M.C.A.'s and Clubs of any kind. Our line includes billiard tables, both of wood and steel construction

A DIRECTORY OF OUR LINES

CHINA
GLASSWARE
SILVERWARE
HOTEL EQUIPMENT
Aluminum Ware
Beds
Blankets
Brooms
Brushes
Chairs

BED LINENS
TABLE LINENS
BEDDING
HOSPITAL EQUIPMENT
Cooking Utensils
Disinfectants
Curtains
Dishwashing Machines
Janitors' and Porters' Supplies

FURNITURE
CARPETS
DRAPES
BARBER SHOP EQUIPMENT
Jacket Kettles
Kitchen Utensils
Linoleum
Liquid Soap
Mattresses
Mats and Matting

KITCHEN EQUIPMENT
SODA FOUNTAINS
BILLIARD TABLES
BAKERY EQUIPMENT
Individual Soap
Tables
Toilet Paper
Towels
Urns
Pillows
Ranges
Refrigerators
Shades
Show Cases

ALBERT PICK & COMPANY

208-224 WEST RANDOLPH ST., CHICAGO, ILLINOIS

For Nearly a Century the Store of Service.

ALCOHOL LAMPS, BURNERS, ETC.

ALCOHOL LAMPS

No. 333

Fig. 40570A

No. 1102

Fig. 40570B

No. 333 Alcohol lamps are made in two sizes and have nickel-plated base and tube

Price, Small, 2¼-inch Glass Font with ¼-inch Wick . . . . . each 1 00

Price, Large, 3⅜-inch Glass Font with ⅜-inch Wick 1 75

No. 1102 Lamps are also made in two sizes. Small size—body diameter 2 inches, height 3½ inches, ⅜-inch wick. Large size body diameter, 2⅝ inches, height, 4½ inches, wick, ½-inch.

Price, Small Size . . . . . each .60

" Large " . . . . . " .75

C BURNERS

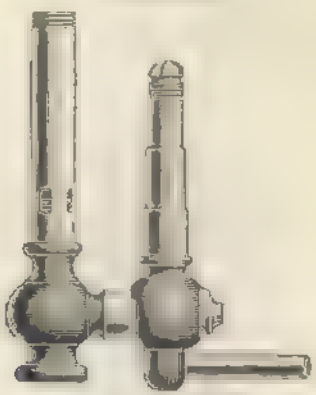


Fig. 40570C

A very useful burner fitted with one Bunsen burner and one burner for light, also tube for blow pipe

Price . . . . . per dozen 9 00

BUNSEN BURNERS

No. 1118

Fig. 40570D

No. 2130

Fig. 40570E

No. 1118 burners are used for heating tools, etc

Price . . . . . each 40

No. 2130 Bunsen burners are fitted for gas. Height, 6 inches. Diameter of tube, ⅛-inch.

Price . . . . . each 1.80

No. 468 SOLID FLAME BOILING BURNERS

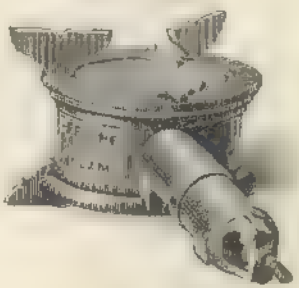


Fig. 40570F

Adapted for use in boiling pickle. Connected with rubber tubing to any gas outlet

Price . . . . . each. 4.00

No. 850 GAS HEATERS

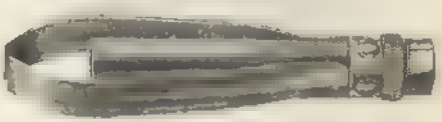


Fig. 40570G

Used for tempering drills, punches, chisels, small tools, etc

Price . . . . . each 1.50

BLOWPIPES, ETC.

BLOWPIPES

PLAIN

Fig. 11601A

WITH BULB

Fig. 11601B

Length ..... inches	9	10	11	12	13
Price, Plain ..... each	.24	.26	.28	.30	.32
" with Bulb ..... "	.34	.36	.38	.42	.45

BRAZING BLOWPIPES

No. 8B

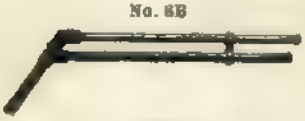


Fig. 11601C

No. 8E

Fig. 11601D

No. 8F

Fig. 11601E

Number	8B	8C	8E	8F	8G
Air Jet ..... inches	1/8	1/8	3/16	5/16	5/16
Gas Supply ..... "	3/8	3/8	1/2	3/4	3/4
Price for Coal Gas ..... each	2.50	4.00	6.00	7.75	...
" " Natural Gas or Gasoline Gas "	...	4.75	6.75	...	8.00

Nos. 8C, 8E, 8F and 8G have two lever stopcocks. Nos. 8B and 8C require Nos. 9A or 10A foot blower. Nos. 8E or 8F and 8G require Nos. 9B and 10B foot blower. No. 8G is designed for natural or artificial gas. Nos. 8C and 8E can also be supplied for natural gas.

FOOT BLOWERS

Nos. 9, 9A, OR 9B

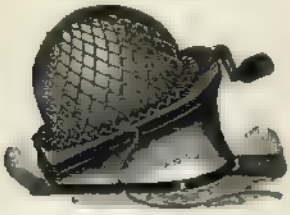


Fig. 11601F

Nos. 10, 10A, OR 10B

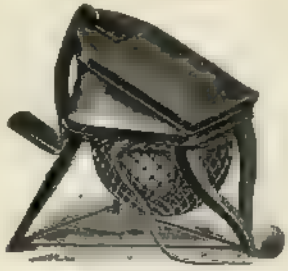


Fig. 11601G

Number	9	9A	9B	10	10A	10B
Price	9.50	12.50	17.25	10.75	14.25	19.50

Write us Your Requirements for Goods Not Listed.

Baby Dolls

Sanitary Composition Dolls

N16189

All composition baby doll with painted hair, eyes and features, bent legs, jointed arms. White slip. Each in box.

	Each
N15189—Height 13¼ inches	1.00
N16190—Height 18 inches	1.50

N16197–N16202

Short white dress trimmed with lace, lace trimmed cap to match, painted eyes and mohair wig

	Each
N15199—Height 10½ inches	1.00
N15200—Height 12½ inches	1.25
N15201—Height 14 inches	1.50
N15202—Height 16 inches	3.00

N15648–49

	Each
N15648—FINE CORK STUFFED BODY—With extra quality mohair wig, ribbon bow in hair moving eyes, composition head and hands white lace dress, removable shoes and stockings; height 14 inches. Each in box	2.50
N15649—Same as N15648. Height 16 inches	3.00

N15673-75

With genuine American bisque heads, all composition sanitary body, jointed arms and legs. Fine mohair wig moving eyes with eyelashes, white slip. Each in box.

	Each
N15673—Height 14 inches	5.00
N15674—Height 28 inches	6.50
N15675—Height 32 inches	8.00

With Mohair Wig

N16191-96

With painted eyes, mohair wig, painted arms and legs, white slip. Each in box.

	Per Doz.
N15191—Height 9 inches	6.00
N15192—Height 10½ inches	9.00

With ball socket jointed head

	Each
N16193 Height 12½ inches	1.00
N15194—Height 14 inches	1.50
N15195—Height 16 inches	2.00

Bent Legs, Wig and Moving Eyes

N15200-04

	Each
N15203—ALL COMPOSITION DRESSED DOLL—With moving eyes; mohair wig; short white dress, knitted sweater-coat and hood, height 13½ inches. Each in box	1.75
N15204—Height 14 inches	2.00

N15665-70

All composition, very light and sanitary baby doll. Jointed arms and legs, composition head with ball socket joint, extra quality short mohair wig, open mouth showing teeth.

	Each
N15665—Height 14 inches	3.00
N15669—Height 18 inches	4.00
N 5670—Height 26 inches	5.00

N15669-52

With fine American bisque head, full jointed arms and legs, light sanitary composition body, moving eyes with eyelashes, sewed ribbon, red mohair wig. Each in box.

	Each
N15672—Height 16 inches	5.50
N15680—Height 20 inches	6.75
N15681—Height 24 inches	7.50
N15682—Height 30 inches	10.50

All Prices in this Catalog are NET

N15207-09

Painted eyes, mohair wig, straight cut bisque socket, jointed head, white slip. Each in box.

	Per Doz.
N15207—Height 14½ inches	10.50

	Each
N15208 Height 16 inches	1.50

With wig and moving eyes, ball socket head, jointed arms and legs, white slip. Each in box.

	Each
N15197—Height 15 inches	4.00
N15198—Height 24 inches	8.00
N15209 Height 30 inches	2.00

N15196 98

Jointed arms and legs, mohair wig moving eyes, white slip. Each in box.

	Each
N15196—Height 18½ inches	2.00

With natural eyelashes.

	Each
N15242 Height 21 inches	2.00
N15077—Height 24 inches	3.75
N15078—Height 30 inches	5.50

Full Jointed

N15249-077-078

	Each
N15078—FULL JOINTED DOLL—White hard, light, sanitary body; arms are jointed at wrist, shoulder and elbow; legs are jointed at knee and hip; hard-to-break composition head moving eyes, real human hair wig with long curls; height 19 inches.	3.00

With full jointed arms and legs, hard composition sanitary body, composition head, moving eyes, real human hair ringlet wig. Each in box.

N15671-72

	Each
N15071—VICTORY BABY. All composition sanitary baby with jointed arms and legs. Fine composition head moving eyes, mohair wig, short white lace trimmed dress, lace trimmed cap to match. Knitted bonnet, height 14 inches. Each in box	6.00
N15072—Same as N15671. Height 24 inches	8.00

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Dolls

Bisque Dolls

N15983

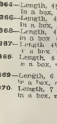
N16167

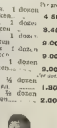
B SQUE DOLLS—With painted ribbon in hair, painted arms and legs; painted hair and features; painted painted shoes and legs.

	Per pr.
N15360—Length, 4¼ inches. 2 dozen in a box, not broken	4.80
N15360—Length, 4½ inches. 1 dozen in a box, not broken	4.80
N15361—Length, 5 inches. 1 dozen in a box, not broken	9.00
N15362—Length, 5½ inches. 1 dozen in a box, not broken	1.73
N15363—Length, 6¼ inches. 1 dozen in a box, not broken	1.92

BISQUE DOLLS—With jointed arms and legs, painted hair and features, painted shoes and stockings.

	Per pr.
N15364—Length, 4½ inches. 1 dozen in a box, not broken	4.80
N15366—Length, 5 inches. 1 dozen in a box, not broken	3.40
N15368—Length, 6 inches. 1 dozen in a box, not broken	9.00
N15367—Length, 4¾ inches. 1 doz. in a box, not broken	9.00
N15366 Length, 5 inches. 1 dozen in a box, not broken	9.00
N15369—Length, 6 inches, ¼ dozen in a box, not broken	1.80
N15370 Length, 7 inches. ½ dozen in a box, not broken	2.00


N16356

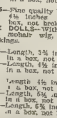

N16343

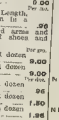
BISQUE BABY DOLLS—With jointed arms and legs, painted hair and features, bent legs, bare feet.

	Per pr.
N15356—Length, 5 inches. 1 dozen in a box, not broken	9.00
N15355—Fine quality bisque. Length, 4¾ inches. 1 dozen in a box, not broken	.96

BISQUE DOLLS—With jointed arms and legs mohair wig, painted shoes and stockings.

	Per pr.
N15356—Length, 5½ inches. 1 dozen in a box, not broken	9.00
N15346—Length, 6½ inches. 1 dozen in a box, not broken	2.00
N15349—Length, 6¾ inches. ¼ dozen in a box, not broken	1.80
N15347 Length 4¾ inches. 1 dozen in a box, not broken	1.96
N15348—Length, 5¾ inches. 1 dozen in a box, not broken	3.60
N15349—Length, 6¾ inches. ¼ dozen in a box, not broken	1.80
N15350—Length, 7½ inches. 1 dozen in a box, not broken	2.00


N15945


N15302

CLOTH BODY DOLL—With bisque head, painted hair and features, bisque hands and feet, cloth body. Length 1 dozen in a box, not broken

FAT BISQUE BABY—In painted bathing suit; jointed arms, stiff legs, painted hair and features.

	Per pr.
N15360—Length, 9¾ inches. 1 dozen in a box, not broken	9.00
N15351 Length, 6 inches. 1 dozen in a box, not broken	1.00
N15352—Length, 5½ inches. ½ dozen in a box, not broken	1.75

N15979

N16354

FAT BISQUE BABY DOLL—With jointed arms, stiff legs, bare feet, painted hair and features

	Per pr.
N15371—Length, 4½ inches. 1 dozen in a box, not broken	9.00
N15372—Length, 6 inches. ½ dozen in a box, not broken	1.92

FAT BISQUE BABY DOLLS—With jointed arms, stiff legs, bare feet, painted hair and painted hair ribbon

	Per pr.
N15353—Length, 4½ inches. 1 dozen in a box, not broken	9.00
N15354—Length 6 inches. ½ dozen in a box not broken	1.92

N16378

N15357

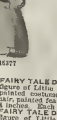
BISQUE AVIATOR—With jointed arms, metal head and legs, painted hair, eyes and features, bent knees, bare feet.

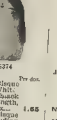
	Per pr.
N15376—BISQUE AVIATOR—With jointed metal head and legs, painted hair, eyes and features, bent knees, bare feet. Length 4½ inches. 1 dozen in a box, not broken	9.00

FAT BISQUE BABIES—With jointed arms, stiff legs, bare feet, painted hair and features. Each quality is sold separately.

	Per pr.
N15357—Length, 4¾ inches. 1 dozen in a box, not broken	10.20
N15360—Length, 5 inches. 1 dozen in a box, not broken	11.40

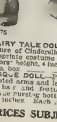
Fairy Tale Dolls


N16377


N15374

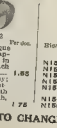
	Per doz.
N15377—FAIRY TALE DOLL—Bisque figure of Little Snow White, painted costume, long black hair, painted features, jointed. 3 inches. Each in a box	1.55
N15378—FAIRY TALE DOLL—Bisque figure of Little Red Riding Hood, painted hair and features, long gold painted caps and hood; length, 4 inches. Each in a box	1.65

Fairy Tale Doll


N15375

	Per doz.
N15375—FAIRY TALE DOLL—Bisque figure of Cinderella with appropriate costume painted in colors; height, 4 inches. Each in a box	1.65
N15373—BISQUE DOLL—Tyke baby; jointed arms and legs, painted hair and features with long curled top knot. 3½ inches. Each in a box	1.75

Baby Doll


N15373

Baby Dolls With Bisque Heads

N15005-56

JOINTED BABY DOLL—Bisque head, painted hair and features, bent legs, white slip.

	Per pr.
N15001—Length, 6 inches. 1 dozen in a box, not broken	9.00
N15002—Length, 8 inches. 1 dozen in a box, not broken	9.00
N15003—Length 7 inches. 1 dozen in each, not broken	1.75
N15004—With dress, Length, 6 inches. 1 doz. in a box	3.50

JOINTED BABY DOLL—With bisque head, mohair wig, painted eyes and features with white slip. Length, 20 inches. Each in a box

	4.00

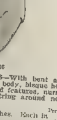
With bisque head, painted hair and eyes, white slip

	Per pr.
N15005—Height, 9 inches	4.80
N15007—Height, 12 inches	6.00
N15008—Height, 15 inches	7.50
N15009—Height 19½ inches	9.60
N15010—Height, 13 inches	1.00
N15011—Height 13½ inches	1.20

Jointed arms and legs bisque head, painted hair, moving eyes. White slip. Each in a box

	Per pr.
N15012—Height 7¾ inches	2.40
N15013—Height 9½ inches	3.60
N15014—Height 11½ inches	5.40
N15015—Height 10 inches	.90
N15016—Height 13 inches	1.20
N15017—Height, 15 inches	1.75
N15018—Height 17 inches	2.30

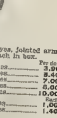
Baby Dolls With Bisque Heads Composition Body


N15004-56

JOINTED BABY DOLLS—With bent arms and legs, fine quality body, bisque head; bottle attached to string around neck of work pants.

	Per pr.
N15034—Length, 6¾ inches. Each in a box	4.25
N15035—Length, 8¾ inches. Each in a box	9.28
N15036—Length, 10 inches. Each in a box	1.00

Mohair Wig—Painted Eyes


N15039-28

Bisque head, wig, painted eyes, jointed arms and legs, white slip. Each in box.

	Per doz.
N15016—Height, 6¾ inches	3.00
N15020—Height, 8 inches	5.40
N15021—Height, 9¾ inches	7.00
N15022—Height, 8¾ inches	6.00
N15023—Height, 11 inches	10.00
N15024—Height, 13½ inches	1.00
N15025—Height, 15½ inches	1.40

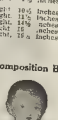
Moving Eyes and Mohair Wig

N15036-32

With movable eyes, mohair wig, jointed arms and legs, white slip. Each in box.

	Per doz.
N15026—Height 8 inches	7.75
N15027—Height 9½ inches	9.75
N15028—Height 11 inches	10.00
N15029—Height 10½ inches	Each .90
N15030—Height 13 inches	1.20
N15031—Height 15½ inches	1.75
N15032—Height 12½ inches	2.75
N15033—Height 18 inches	3.30
	4.00

All Composition Babies


N15150-56

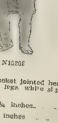
HARD-TO-BREAK SANITARY COMPOSITION BABIES—Jointed arms and legs, white slip painted hair and eyes. Each in box.

	Per doz.
N15186—Height, 8¾ inches	4.00
N15187—Height, 10½ inches	6.00

N15249—ALL COMPOSITION BODY BABY Jointed arms, head, baby face, mark paste, length, 10 inches

	Per doz.
N15188—**ALL SOCKET JOINTED HEAD DOLL**—Height, 12½ inches	6.00
	8.00

Hard Body


N15250

Straight legs, ball socket jointed head, wire jointed arms and legs, white slip. Each in box

	Per doz.
N15206—Height, 13½ inches	9.00
N15206—Height, 16 inches	1.25

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

ACCO —
For Every Railway Purpose

FOR every railway purpose, you will find the chain you need in the big ACCO Line, and more, you will find *strength, saving and safety* in every ACCO CHAIN.

For service on cranes—outdoors or indoors, for dredge service and derrick service. For safety chains on passenger car equipment, for signal service, for locomotive bells and conductors' valves. For service on steam hose, for switching service, for every railway purpose where absolute dependability and marked economy are factors, there is an ACCO CHAIN—***the chain which always stands the strain.***

ACCO—the chain in which ***every link is tested to stand far greater strain than service can impose.*** ACCO—the chain which is made safe and makes good. ACCO—the chain with *reserve strength built into each link.* ACCO—the Chain of Perfect Uniformity of Quality. ACCO, that chain of Safety—Safety because ***every link in every ACCO CHAIN will hold for the purpose intended.***

American Chain Company, Inc.
Bridgeport, Conn.

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DOMINION CHAIN CO., LTD
NIAGARA FALLS ONT

General Sales Office:
Grand Central Terminal,
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Philadelphia Portland, Ore.
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·A·C·
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DREDGE CHAIN

LARGEST MANUFACTURERS OF RAILWAY CHAINS IN THE WORLD

"Load and Look"

KRON SCALES

AUTOMATIC (Made in U. S. A.) SPRINGLESS

Made in Types to meet every requirement

Any capacity from a 30-lb. Hanging Pan Scale to an Industrial Railway Scale up to 15 tons. Dormant and Portable Types, Traveling Crane, Hopper, Pitless Suspension, etc.

ADVANTAGES OF THE KRON SCALE

It is the only scale that will indicate the total capacity of the dial without any manipulation of weights.

It is non-vibrating—the pointer always stops "dead" at accurate weight.

It is strongly built upon a proven principle—hence its maintenance cost is practically nil.

All parts are interchangeable regardless of capacity. All metal construction. It seals itself.

Catalogue sent upon request.

AMERICAN KRON SCALE COMPANY

430 East 53rd St., New York

Branch Offices & Service Stations in Principal Cities

CANADIAN KRON SCALE CO., MONTREAL, CANADA

Scales, Computing

(Scales having dials or beams, graduated in both pounds and prices per pound. Automatic or dial scales may have either stationary dial with revolving pointer or revolving dial. Computing scales of the counter variety are of the beam type.)

Anderson Computing Scale Co., Anderson, Ind.
Ansidile Computing Scale Co., Elkhart, Ind.
Buffalo Scale Co., Inc., Buffalo, N. Y.
Computing Scale Co., Dayton, O.
Fairbanks, Morse & Co., Chicago.
Howe Scale Co. of Ill., Chicago.
Kohlbusch, Herman, Sr., New York.
Moneyweight Scale Co., Chicago.
National Scale Co., New York.
Pick & Company, Albert, 208-224 W. Randolph St., Chicago ..... See Page 7
Strubler Computing Scale Co., Elkhart, Ind.
Toledo Scale Co., Toledo, O.
Triner Scale & Mfg. Co., Chicago.

Scales, Confectioners'

American Kron Scale Co., (Automatic Springless Dial Scales), New York. (Automatic Dial, All Types.)
Fairbanks Morse & Co., Chicago.
Pick & Company, Albert Chicago
Standard Scale & Sup. Co., The Pittsburgh Pa.

Scales, Conveyor

American Kron Scale Co., (Automatic Springless Dial Scales), 430 E. 53rd St., New York. (Automatic Dial, All Types.) See Advt. Index, Page 7
Merrick Scale Mfg. Co., Passaic, N. J.
The conveyor Weightometer automatically records weight of material in transit on belt and pan conveyors.

Scales, Counter

(Scales provided with a scoop or pan for merchandise and a balanced graduated beam. Union scales are provided with a platform in addition.)

American Cutlery Co., Chicago.
American Kron Scale Co. (Automatic Springless Dial Scales), New York (Automatic Dial, All Types.)
Buffalo Scale Co., Inc., 1210 Niagara St., Buffalo, N. Y. ..See Advt. Index, Page 7
Computing Scale Co., Dayton, O.
Factory Equipment Headquarters, New York.
Howe Scale Co., Rutland, Vt.
Kohlbusch, Herman, Sr., New York.
Landers, Frary & Clark, New Britain, Conn.
National Scale Co., New York

(Continued on following page.)

KNOW WHAT YOUR COAL BILL SHOULD BE

There's no longer any such commodity as "Cheap Coal," and indications are that there probably never will be again.

At present prices, or for that matter—at any price—it is neither good engineering practice nor good management to check your coal by mine weights or railroad weights.

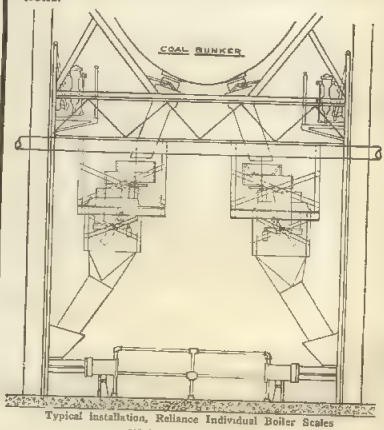
RELIANCE WEIGHING MACHINES

insure an accurate and positive check on every ounce of coal consumed. They provide a means, without additional labor cost, of checking the total received against the total purchased. They show to operator and executive the exact amount of coal consumed by each boiler. They bring efficiency and economy into coal consumption.

Weighs—records—indicates—without manual effort—the entire operation automatic

Each machine is a unit in itself, so perfect in design and flexible in application that it will meet any existing plant conditions.

The services of our engineers are at your command in helping you plan prospective installations.



Typical Installation, Reliance Individual Boiler Scales

Write us for details

Representatives in principal cities United States and Canada

Reliance Weighing Machine Division

Stearns Motor Mfg. Company

General Offices and Factory

LUDINGTON, MICHIGAN

BEST BECAUSE

All Steel—Hardened—All Kinds

FOR SQUARE AND TAPER SHANK DRILLS Spindle Nut and Screw made of Bar Steel, Body Drop Forged, Long Lasting under hardest use Write for free catalog. Specify ARMSTRONG when ordering and get the best.

ARMSTRONG BROS. TOOL CO.
"The Tool Holder People"
317-357 N. Francisco Avenue, Chicago, U. S. A.

ALLOY STEEL SCREWS

The efficiency and life of a lathe dog or a clamp depends largely upon the quality of the screw
We make the screws used in our dogs and clamps from a special chrome-nickel steel; they are given a special treatment and the points are hardened. They are practically unbreakable and will outwear soft steel or case hardened screws ten to one. These extra quality screws and their superior design and workmanship have earned for Armstrong Dogs and Clamps a preference based upon actual service. All kinds and sizes in stock.

Specify ARMSTRONG when ordering and get the best
Catalog mailed free upon request

ARMSTRONG BROS. TOOL CO.
"The Tool Holder People"
317-357 N. Francisco Avenue, Chicago, U. S. A.

WHY?

Why should a railroad shop waste time, High Speed steel and grinding wheels which most manufacturing shops save by using ARMSTRONG Tool Holders on lathes and planers?

No forging—little grinding—90% less tool steel. Specify ARMSTRONG when ordering and avoid substitution.

Write for Free Catalog

ARMSTRONG BROS. TOOL CO.
"The Tool Holder People"
317-357 N. Francisco Avenue, Chicago, U. S. A.

STRENGTH

is a very essential quality in a wrench, but it does not depend entirely upon bulk or weight of metal.

The strength and long lasting qualities of ARMSTRONG wrenches are the results of skilled combination of best steel, expert design, accurate machining and heat treatment. All kinds and sizes. Specify ARMSTRONG when ordering and get the best. Write for free catalog.

Armstrong Bros. Tool Co.
"The Tool Holder People"
317-357 N. Francisco Ave., Chicago, U. S. A.

The SPERLING

Compare Its Value Point by Point

The Sensation of Today's Automobile Market

Everywhere you go throughout the automobile trade dealers are discussing the Sperling Car. For the Sperling is one of those unusual cars that so seldom are created. Among the host of "just cars" it displays outstanding features that delight a dealer's heart.

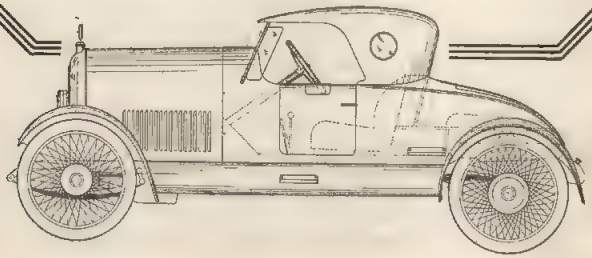
A remarkable Supreme-four power plant, Zenith equipped, with the choice of either Bosch or Splitdorf or battery ignition, is able to do 25 miles on a gallon of gas. Cantilever springs contribute to complete ease of riding, and the high radiator, with polished aluminum shell, gives the car a symmetrical line and distinctive appearance. Go over the Sperling, *point* by *point*. Note the exceptional workmanship and the many thoughtful touches that lift it far beyond the average, and then consider that it sells for less than $1000.

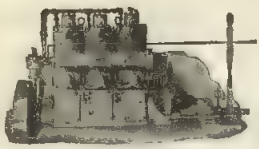
The agencies are being rapidly taken. If interested, we advise your immediate inquiry.

Models: **Roadster, Club Speedster, "The Aristocrat," 5 Passenger**

Associated Motors Corporation

1926 Broadway at 64th Street, New York, N. Y.





MIETZ OIL ENGINES

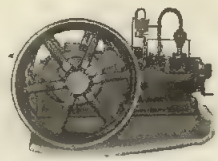
STATIONARY AND MARINE
4 to 350 H. P.

25 years on the market.

Operate on low grade fuels exclusively.

In use by the leading railroads and industries throughout the world.

Suitable for any class of power work.



AUGUST MIETZ CORPORATION

432 EAST 19TH ST., NEW YORK

MUNCIE CRUDE OIL ENGINES

Consume less than 6/10 pounds of Crude Oil per B.H.P. hour

L. H. Rear View of 100 and 125 H. P. Type C.

Built in sizes 10 to 250 H. P. For over 15 years the leader. For simplicity, reliability and efficiency they have no equal.

Our New Catalogue with Specifications ready for distribution.

Write for Yours Now.

MUNCIE OIL ENGINE CO.

700 S. Mulberry St., MUNCIE, IND., U. S. A.

Fairmont Gas Engine & Railway Motor Car Co., 437 N. Main St., Fairmont, Minn. ..... See Advt. Index, Page 7
Franklin Valveless Engine Co., Franklin, Pa.
Gade Bros. Mfg. Co., Iowa Falls, Ia.
Higgins & Company, Chicago.
Ingersoll-Rand Company, New York. (Stationary.)
International Harvester Co. of Amer., Chicago.
Jones Oil Engine Corp., Syracuse, N. Y.
Kelly-Derby Co., Inc., Peoples Gas Bldg., Chicago..... See Advt. Index, Page 7
Lauson Mfg. Co., John, New Holstein, Wis.
Machinery Sales Co., 904-538 S. Dearborn St., Chicago..... See Advt. Index, Page 7
McIntosh & Seymour Co., Auburn, N. Y.
Mietz Corp., August, New York.
Muncie Oil Engine Co., Muncie, Ind.
Otto Engine Mfg. Co., Philadelphia, Pa
Rapid Tool & Machine Co., Ltd., Lachine, Que., Can.
Rathbun-Jones Engineering Co., Toledo, O.
Remington Oil Engine Co., Stamford, Conn.
San Antonio Mach. & Sup. Co., San Antonio.
Snow-Holly Works, 115 Broadway, New York.
Warner Mfg. Co., Ottawa, Kan.
Worthington Pump and Machinery Corporation, 115 Broadway, New York..... See Advt. Index, Page 7

Engines, Oil, Crude

Chicago Pneumatic Tool Co., 1012 Chicago Pneumatic Bldg., New York.... See Page 7
Fairbanks, Morse & Co., 900 S. Wabash Ave., Chicago .... See Advt. Index, Page 7
Jacobson Gas Engine Co. Rensselaer Suburb of Albany N. Y.
Kelly-Derby Co., Inc., Peoples Gas Bldg., Chicago..... See Advt. Index, Page 7
McIntosh & Seymour Co., Auburn N. Y.
Mietz, August, Corporation, 432-434 E. 19th St., New York.... See Advt. Index, Page 7
The MIETZ oil engines are built for both stationary and marine work in sizes from 4 to 200 H. P. inclusive. They are suitable for any class of power work whatever. It is the oldest engine of its type on the market. There are over 375,000 H. P. of them in service throughout the World. They are operated exclusively on the low grade oils. They are simple, reliable and economical and are endorsed and used by the U. S., Foreign Governments and the leading industries throughout the World. They are particularly suited for generator work on account of their close regulation and ability to operate in parallel when necessary.
Muncie Oil Engine Co., 700 S. Mulberry St., Muncie, Ind.... See Advt. Index, Page 7
Heavy Duty Type Stationary 10 to 250 H.P. Engine operates on Price 24 to 28 deg gravity consumption less than 6/10 lbs per b.h.p. hr Medium compression medium speed engines, automatically governed, controlling within 3% guaranteed under full load change No stand-by losses. Quick start, reliable in all climates and altitudes, the only MUNCIE OIL ENGINE
Railroad Water & Coal Handling Co., 608 So. Dearborn St., Chicago.
Snow Construction Co., E. W., 117 N. Dearborn St., Chicago See Advt. Index, Page 7
Worthington Pump & Machinery Corporation, 115 Broadway, New York See Page 7

Engines, Oil, Diesel

Busch Sulzer Bros., St. Louis, Mo.
Dow Pump & Diesel Engine Co., Alameda, Calif.
Fulton Iron Works Co., St. Louis, Mo ..... See Advt. Index, Page 7
The Fulton Diesel Oil Engine is built in the vertical form and in two, three and four cylinder arrangement. As ignition is insured by the heat of compression, no hot head, hot plate, electric spark or other exterior means of ignition is required. The operation of the Fulton Diesel is quiet, clean and safe.
Jacobson Engineering Co., Albany, N. Y.
McIntosh & Seymour Corp., Auburn, N. Y.
Viller Mfg. Co., Milwaukee, Wis.
Western Machinery Co., Los Angeles, Calif.
Worthington Pump and Machinery Corporation, 115 Broadway, New York..... See Advt. Index, Page 7

Engines, Oil, Fuel

Barnes Engineering Co., The, Canal Dover, O.
Dodge Sales & Engineering Co., Mishawaka, Ind., (Marine and Stationary.)
Fairbanks, Morse & Co., Chicago.
Lucey Manufacturing Corp., Pittsburgh, Pa.
Hadfield Penfield Steel Co., The Bucyrus, O.
Marion Machine, Foundry & Supply Co., Marion, Ind.

Engines, Oil, Marine

Bolinders Co., New York.
Commonwealth Motors Co., Chicago.
Fairbanks, Morse & Co., 900 S. Wabash Chicago..... See Advt. Index, Page 7
Grand Rapids Gas Engine Co., Grand Rapids, Mich.
Great Lakes Engineering Wks., Detroit, Mich.
Jacobson Gas Engine Co., Rensselaer, Suburb of Albany, N. Y.
Mietz Corp., August, New York.
Perkins & Co., Grand Rapids, Mich.

AUTOMOBILE CLOCKS

MODEL M JR. KEYLESS CLOCKS

A dash type, 8-day clock. Has 2¼-inch dial. Finished in black and nickel with either a black or silver dial.

Clock cannot be stolen as a special key is required to unlock it.

Price ..... each 11.00

Nos. 1 AND 2 REAR WIND AUTO CLOCKS

No. 1 DASH TYPE

Thirty-hour clock with white dial, size 2½ inches, and black numerals.

Finished only in black and nickel.

Price, No. 1 Dash Type ..... each 5.25

" " 2 Cowl ..... " 5.50

No. 12B COWL KEYLESS CLOCKS

Eight-day clock. Dial 2¼-in.; base, 2½-in., length of clock 3½-in.

Finished in black and nickel with non-glaring silver or black dial.

Price ..... each 11.50

POPOUT COWL KEYLESS CLOCKS

Flush type, 8-day clock. The 2¾-inch dial is dull black with silver numerals. Finished in black and nickel.

Price ..... each 13.50

" with Luminous Dial 15 50

AEROPLANE KEYLESS CLOCKS

A cowl type clock designed for aeroplanes but well adapted for automobiles.

Case is black with nickel rim. Black dial has luminous hands and numerals.

Price ..... each 13.50

No. 9 COWL KEYLESS CLOCKS

Eight-day clock. Dial, 2¾ in.

Finished in black and nickel with non-glaring silver or black dial.

Price ..... each 12 40

DENVER MODEL COWL CLOCKS

An 8-day, key-winding clock with white celluloid, 2¼-inch dial.

Finished in black and nickel. Dial is non-glaring silver or black.

Price ..... each 7.50

Write us Your Requirements for Goods Not Listed.

Is this counter display working for YOU?

THERE are spark plugs and the B. G. Spark Plug. Show your customers that you carry the B. G. Plug —not just another plug—*the* plug. Put this striking orange-and-black counter-display box in a prominent position and watch it sell B. G. Plugs for you.

Our advertising and literature tell the car owner about the B. G.—*the* plug that cleans itself; *the* plug that is guaranteed against failure from carbon and fouling from oil; *the* plug that insures maximum power and mileage from your gas; *the* plug that sells on the money-back basis.

He sees the B. G. Plug in your store—and the sale is made. Our advertising makes the car owner *want* it. Your counter display box makes him *buy* it.

And it's a sale at a *real* profit. You don't have to cut price to move the B. G. Plug. The car owner is only too glad to pay $1.00 "per each" to get the guaranteed performance and economy of the B. G. Plug.

Start the B. G. Counter Display Box working for you!

If your jobber cannot supply you with the B. G. Plug, send your initial order to us, giving jobber's name, and we will ship direct, together with supply of literature

THE B. G. CORPORATION, 39 Gold St., New York

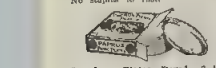
Keep a supply of these B G Folders on your counter or in some handy place. Mighty good ammunition for educating live car owners about the big advantages of the B G Plug. We'll imprint them for you in quantities of 100 and up

B G SPARK PLUG

The Plug that Cleans Itself

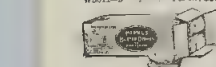
"PAPRUS" SANITARY PLATES AND DISHES

Made from new pure spruce pulp, guaranteed free from chemicals. Molded into shape and stamped. No staples to rust.



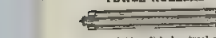
Luncheon Plates, Boxed—8 in plates, in compact boxes.
W5016—20 in box. 1 doz. boxes in case. . . . Doz. $1.44
W5012—12 in box. 2 doz. boxes in case. . . . Doz. .96c

Luncheon Plates in Bulk—½ M in lb.
W5000—7 in. . . . . Per M, $4.20
W5011—9 " . . . . . Per M, 55.33

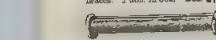


Butter Dishes—½ M in carton
W5006—½ lb . . . . . Per M, $2.35
W5007—1 " 3.60
W5008—2 " . . . . . Per M $4.75

TOWEL ROLLERS



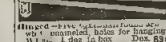
W1064—1x18, polished natural oak, roller stool ends, 2 round back brass. 1 doz. in box. Doz. $1.08



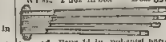
W1083 — 1¼x18 hardwood roller, varnished natural finish turned ends, 1 in each 1 doz. in carton. 70 lb. Doz. $1.30

TOWEL RACKS

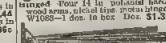
Flared—Five tubular bronze arms, nickel enameled, holes for hanging towels. 1 doz in box. Doz. .65c



Hinged—Four 14 in polished hardwood arms, nickel pipe protectings. W1083—1 doz. in box. Doz. $1.30

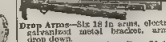


Drop Arms—Six 18 in arms, electro galvanized metal brackets, arms drop down. W1074—1 doz. in pkg. Doz. $2.10



Adjustable—Eight 20 in. hardwood arms, hardwood back screws to wall folding rack, adjustable to 2 lbs. W2355—25 doz. in bdl. Doz. $7.75

ENAMELED TOWEL BARS

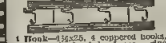


Bar . . . . . Each
W1067—1x24 in. bar, 2 screws to wall in wall. 1 doz. in box. . . . .
W1069—1x22 in roller. . . . .

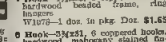
FOLDING HAT RACKS

7 Hangers—Natural varnished hardwood. W1080—1 doz. in bdl. 12 lbs. $1.68
10 Hangers—Well finished hardwood pegs. 10 lbs. W1081—1 doz. in bdl. Doz. $2.25

HAT AND COAT RACKS



4 Hook—14x25, 4 coppered hooks, hardwood beaded frame, ring hangers. W1078—1 doz. in pkg. Doz. $1.65



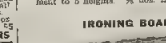
6 Hook—23x25½, 6 coppered hooks, hardwood, mahogany stained finish, ring hangers. W1079—1 doz in carton. Doz. $1.40

IRONING TABLE

STEEL RATCHET ADJUSTMENT

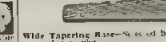
W1408—14x28½ clear basswood top, finished hardwood legs, extra well braced wood ratchet adjustment to 5 heights. ½ doz. in crate. 75 lbs. Doz. $23.50

IRONING BOARDS



Wide Tapering Base—¾ in oil basswood. Wrapped . . doz. in pkg

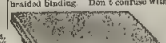
	Narrow End	Wide End	Wt.	Doz.
Length				
W1490—1½ ft.	7½ in	12½ in.	38 lbs.	$15.00
W1491—6 "	8 "	14 "	45 "	16.00
W1492—6½ "	9 "	15½ "	50 "	18.50



Cleated Skirt Board—Selected white basswood, cleated on wide end to prevent warping. ½ doz. in pkg

	Narrow End	Wide End	Wt.	Doz.
Length				
W1406—6½ ft.	8 in.	13 in.	38 lbs.	$12.73
W1501—6 "	9 "	16 "	43 "	Temp. Out
W1502—6½ "	11 "	15 "	50 "	$18.00

GENUINE COCOA DOOR MATS



Heavy deep nap, closely woven, selected tough cocoa fiber strong braided binding. Don't confuse with inferior prison made goods.

	Doz.
Heavy—16 doz. in bdl.	
W1370—About 14x25	*$10.95
W1371—" 18x27	*13.95
W1377—" 18x30	*17.95

Extra Heavy—3 doz. in bdl.

	Doz
W1371—About 18x27	$22.50
W1372—" 18x30	27.75
W1373—" 20x33	36.00

STAR VALUE

Economical Assortment—Medium grade mats, 6 doz. assorted sizes, 18x30 in. W1376—About 3 doz. in bdl., 35 lbs. Doz. *$12.00

"NO SAG" CURTAIN STRETCHERS

6x13 ft. white basswood, measuring rods, triple nickel plated brass pins set beveled and driven through from back, adjustable ½ to 6 in. wide, 2 to 13 ft. long. ½ doz. in crate, about 58 lbs. Doz. $25.50
W1385—1 pair frame pins 5 in. apart. Doz. 35.50
W1386—1 " " " 6 " " "

LAWN CLOTHES DRYER

Made assembly

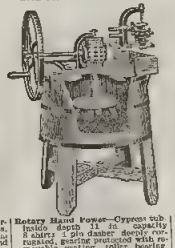
W2295—Four 78 in. wood arms, 110 ft. cotton line (6 lines), adjustable heavy collar for fastening 24 in. ground post with metal screws. Folds up quickly, can be kept indoors when not in use. Each $9.75

WASHING MACHINES

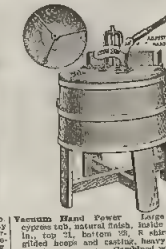
Electric, hand and water power types that will fulfill every demand. Considering the increased popularity of washing machines you should feature several of these numbers. Compare our prices with what others are asking for merchandise of similar quality. Buy here.

"BADGER" WASHING MACHINES

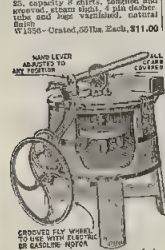
Lever Hand Power—"Round American" tub of Louisiana red cypress, inside depth 11 in., top 21 bottom 25, capacity 8 shirts, hooped and grooved, stand high, 2 pin dasher, tube and legs varnished, natural finish. W1356—Crated, 55 lbs. Each, $11.00



Rotary Hand Power—Cypress tub inside depth 12 in. capacity 8 shirts, 2 pin dasher double corrugated, heavy galvanized with removable grading, roller bearing lever-style dasher post, metal parts are galvanized and painted. W1358—Crated 80 lbs. Each $13.75

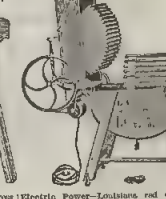


Vacuum Hand Power—Large Louisiana cypress tub, natural finish, inside depth 12½ in., top 21, bottom 23, 8 shirt capacity, gilded hoops and casting, heavy galvanized metal vacuum cup. Combined with the well known rotary principles. W1360—Crated 65 lbs. Each $14.60

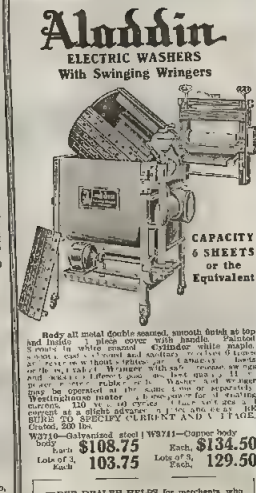


Lever Hand Power—Cypress tub, inside depth 12¾ in., top 21, bottom 18½ in., capacity 8 shirts, 3 pin dasher, 4 corrugations to tub, 4 corrugations to lever, 4 corrugations to dasher, all corrugations run vertically for wheel, driven from 9 in gear wheel—giving greater power with less effort, all gears machine cut, "not cast" and let you adjust to any position, grooved fly wheel can be used with gasoline or electric motor. W1920—Crated, 100 lbs. Each $16.00

Water Power—Louisiana cypress tub, inside depth 12½ in., top 21, bottom 18 in., capacity 8 shirts, brass cast motor cylinder, one valve, 2 springs, rubber rack guide, double bearing for washer shaft, complete with hose connection, all iron parts galvanized and removable, iron parts enameled and rustproof, metal drain, finish with hose connection, all iron parts galvanized rustproof G. E. motor equipment 110 volts, 60 cycle, alternating current, also about 110 per hour for current. Motors for other currents furnished on request. W1365—Crated, 150 lbs. Each $22.00



Electric Power—Louisiana red cypress tub, inside depth 14½ in., top 18x25½, capacity 18 shirts, double cylinder, self adjusting fly 18-shirts, double cylinder, self adjusting and removable iron parts galvanized and rustproof, metal drain, finish with hose connection, all iron parts galvanized rustproof G. E. motor equipment 110 volts, 60 cycle, alternating current, also about 110 per hour for current. Motors for other currents furnished on request. W1365—Crated, 150 lbs. Each $40.00



Body all metal double seamed, smooth finish at top and inside, 1 piece cover with handle. Painted 3 coats in white enamel. Cylinder white maple, 4 coats, varnished and tested for water tightness. Capacity 6 sheets or 6 pairs of pillow cases. Wringer with safety release swings and locks in any position. Has best quality 11 inch rubber rolls. Washer and wringer may be operated at the same time or separately. Westinghouse motor, 1 piece cover for alternating current, 110 volts, 60 cycles. Has self starting current as a slight advance. Also made for DIRECT CURRENT AND 1 PHASE. SURE TO SPECIFY CURRENT AND PHASE. Crated, 200 lbs.

W3740—Galvanized steel body . . . Each, $108.75 . . . Lots of 3, Each $103.75
W3741—Copper body . . . Each, $134.50 . . . Lots of 3, Each 129.50

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BAILEY IRON AND WOOD PLANES

For Nearly a Century the Store of Service.

ADJUSTABLE IRON

No. 3 SMOOTH

Fig. 807A

Bailey Iron Planes have been in use for 50 years and are the recognized

No. 5 JACK

Fig. 807B

Standard for planes of this type While retaining all the original features

No. 6 FORE

Fig. 807C

many valuable improvements in construction have been added from time to time

No. 7 JOINTER

Fig. 807D

No.	Style	Lgth. In	Cutter In	Wt. Lbs.	Price Each
1	Smooth	5 1/2	1 1/4	1 1/2	3 55
2	"	7	1 5/8	2 1/4	4.60
3	"	8	1 3/4	3 1/2	4.80
4	"	9	2	3 3/4	5.25
4 1/2	"	10	2 3/8	4 3/4	6.05
5	Jack	14	2	13	6.05
5 1/4	"	11 1/2	1 3/4	3 3/4	6 40
5 1/2	"	15	2 1/8	6 3/4	6.75
6	Fore	18	2 3/8	7 3/4	7.70
7	Jointer	22	2 3/8	8 1/8	8.80
8	"	24	2 5/8	9 3/4	10.50

WOOD

No. 24 SMOOTH

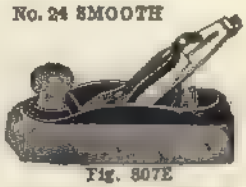


Fig. 807E

Bailey Wood Planes Supply the demand for a wood plane of superior quality.

No. 35, HANDLE SMOOTH

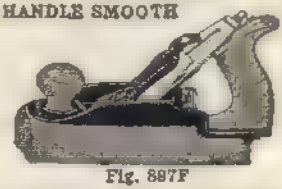


Fig. 807F

The bottom, handle and knob are made from selected and well-seasoned beech

No. 27½ JACK

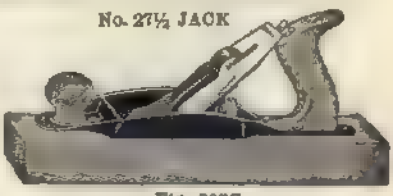


Fig. 807G

The cutters are the regular Bailey type, adjustable both endwise and sidewise.

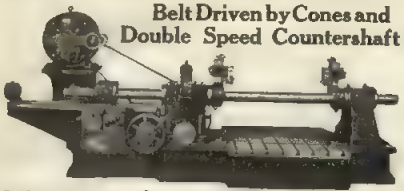
No. 32 JOINTER

Fig. 807H

No.	Style	Lgth. In	Cutter In	Wt. Lbs.	Price Each
22	Smooth	8	1 3/4	2 3/4	3.30
24	"	9	2	2 7/8	3.45
25	Block	9 1/2	1 3/4	2 1/2	3.30
35	Handle	9	2	3 1/4	4.05
36	"	10	2 3/8	4	4.55
37	Jenney	13	2 5/8	5	5.00
26	Jack	15	2	3 3/4	3.60
27 1/2	"	15	2 1/4	4 3/4	4.15
28	Fore	18	2 3/8	5 1/2	4.55
31	Jointer	24	2 3/8	6 1/2	4.85
32	"	26	2 5/8	7 3/4	5.25

No. 2 "Barrett" Horizontal Cylinder Boring Machine

Belt Driven by Cones and Double Speed Countershaft



Builders of all sizes of Single and Double Bar Horizontal Cylinder Boring Machines for boring and facing simultaneously steam, gas, gasoline, pump and locomotive cylinders, also for boring the guides of engine frames and facing off and, besides boring and facing the crank shaft bearings simultaneously. *Glad to forward full data and answer questions—let's hear from you*

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MEADVILLE, PA.

Machines, Boring and Driving, Screw Spike See Cars, Motor, Track Construction

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Byerson & Son, Jos. T., Chicago, New York, Buffalo, St. Louis, Detroit.... See Page 7

Machines, Boring and Turning See Mills, Boring and Turning

Machines, Boring, Drilling and Milling, Metal, Horizontal

Betts Machine Co., 402 Blossom Rd., Rochester, N. Y.....See Advt. Index, Page 7
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Giddings & Lewis Mfg. Co., Fond du Lac, Wis.
Landis Tool Co., Waynesboro, Pa.
Lucas Machine Tool Co., Cleveland, O.
Niles-Bement-Pond Co., New York
Byerson & Son, Jos. T., Chicago, New York, Buffalo, St. Louis, Detroit ... See Page 7
Simmons Machine Co., Inc., Albany, N. Y.
Wright, David A., Cor. Jefferson St. & Washington Blvd., Chicago..... See Page 7

Machines, Boring, Metal

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Barrett Machine Tool Co. Inc., Meadville, Pa.....See Advt. Index, Page 7
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Let us bid on your requirements. Descriptive circular explaining thoroughly the merit of our Boring Machines mailed on request. Established 1881
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Cincinnati Planer Company, The, Cincinnati, O.
Colburn Machine Tool Co., The, 1038 Ivanhoe Road, Cleveland, O.....See Page 7
Defiance Machine Works, Defiance, O.
Foote-Burt Co., Cleveland, O.
Lucas Machine Tool Co., Cleveland, O.
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Newton Machine Tool Works, Philadelphia, Pa.
Niles-Bement-Pond Co., New York
Sellers & Co., (Inc.), Wm., Philadelphia, Pa.
Underwood Corporation, H. B., 1025 Hamilton St., Philadelphia, Pa.....See Page 7

Machines, Boring, Metal, Car Wheel See also Borers, Wheel, Car

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Niles-Bement-Pond Co., New York See Page 7
Byerson & Son, Jos. T., Chicago, New York Buffalo, St. Louis, Detroit.....See Page 7
Sellers & Co., (Inc.), Wm., Philadelphia, Pa.

Machines, Boring, Metal, Connecting Rod

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Lucas Machine Tool Co., Cleveland, O.
Moline Tool Co., Moline, Ill
Newton Machine Tool Wks., Philadelphia, Pa.
Niles-Bement-Pond Co., New York
Pedrick Tool & Machine Co., 3635 N. Lawrence St., Philadelphia, Pa.....See Page 7
See description under Bars, Boring Cylinder Portable
Rooksby & Co., E. J., 1070 Hamilton St., Philadelphia, Pa. ..See Advt. Index, Page 7
Byerson & Son, Jos. T., Chicago, New York Buffalo, St. Louis, Detroit.....See Page 7
Sellers & Co., (Inc.), Wm., Philadelphia, Pa.
Underwood Corporation, H. B., 1025 Hamilton St., Philadelphia, Pa.....See Page 7

Machines, Boring, Metal, Horizontal

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Byerson & Son, Jos. T., Chicago, New York Buffalo, St. Louis, Detroit See Page 7
Sellers & Co., (Inc.), Wm., Philadelphia, Pa.
Wright, David A., Cor. Jefferson St. & Washington Blvd., Chicago . See Page 7

Machines, Boring, Metal, Vertical

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Cleveland Pneumatic Tool Co., The, 3734 E. 78th St., Cleveland, O. (Wood.) .....See Advt. Index, Page 7
Helwig Mfg. Co., St. Paul, Minn.
Independent Pneumatic Tool Co., Chicago
Ingersoll-Rand Co., New York.....See Page 7

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Helwig Mfg. Co., St. Paul, Minn.
Newton Machine Tool Wks., Philadelphia, Pa.
Niles-Bement-Pond Co., New York.
Pedrick Tool & Machine Co., 3635 N. Lawrence St., Philadelphia, Pa.....See Page 7
Rooksby & Co., E. J., 1070 Hamilton St., Philadelphia, Pa...See Advt. Index, Page 7
Byerson & Son, Jos. T., Chicago, New York, Buffalo, St. Louis, Detroit.....See Page 7
Underwood Corporation, H. B., 1025 Hamilton St., Philadelphia, Pa.....See Page 7

Machines, Boring, Post Hole

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Greenlee Bros. & Co., Rockford, Ill.
Helwig Mfg. Co., St. Paul, Minn. (Pneumatic.)
Ingersoll-Rand Co., New York.....See Page 7
Jones Foundry & Machine Co., W. A., 4408 W. Roosevelt Road, Chicago See Page 7
Jones Superior Mach. Works, Chicago.
Kidder Co., R. E., Worcester, Mass.
Lawson & Co., Inc., New York. (Sq. hole.)
Millers Falls Co., Millers Falls, Mass
National Automatic Tool Co., The, Richmond, Ind.
Ober Mfg. Co., Chagrin Falls, O
Oliver Machinery Co., Grand Rapids, Mich
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Valley City Mach. Wks., Grand Rapids, Mich.
Wright, David A., Cor. Jefferson St. & Washington Blvd., Chicago.....See Page 7

Machines, Boring, Wood, Car

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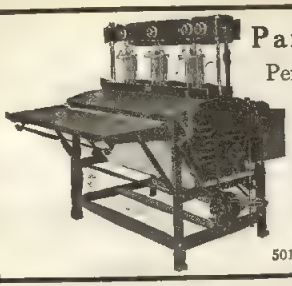

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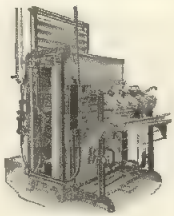

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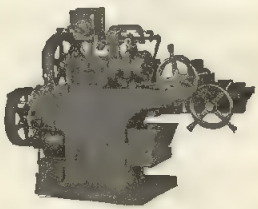

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Foote-Burt Co., Cleveland, O
Greenfield Tap & Die Corp. Greenfield, Mass
Howard Iron Works, Buffalo, N. Y.
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Machines, Boring and Drilling, Metal, Horizontal See also Mills, Boring, Horizontal

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Bettis Machine Co., 402 Blossom Rd., Rochester, N. Y.....See Advt. Index, Page 7
Garvin Machine Co., The, New York.
Giddings & Lewis Machine Tool Co., Fond du Lac, Wis.
Hoefer Mfg. Co., Freeport, Ill.
Lucas Machine Tool Co., Cleveland, O.
Milwaukee Electric Crane & Mfg. Co., Inc., Milwaukee, Wis See Advt. Index, Page 7
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Niles-Bement-Pond Co., New York.
Pawling & Harnischfeger Co., 38th and National Aves., Milwaukee, Wis...See Page 7
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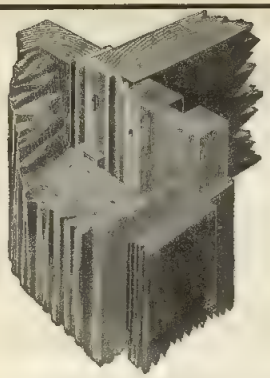

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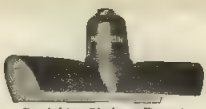

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Western Railway Equipment Co., St. Louis, Mo
Wood Company, Guilford S., Chicago

Fixtures, Car Lighting, Electric See Lighting Fixtures, Car, Electric

Fixtures, Car Vestibule

Adams & Westlake Co., Chicago
Curtain Supply Co., The, Chicago.
Dayton Mfg. Co., The, Dayton, O.
Morton Mfg. Company, 5133-39 W. Lake St., Chicago.....See Advt. Index, Page 7
Request Bulletin 12
National Lock Washer Co., The, Johnson, Herman & Pennington Sts., Newark, N. J......See Advt. Index, Page 7

Fixtures, Car Window

(Devices for the operation of car windows.)
Adams & Westlake Co., 319 W. Ontario St., Chicago.....See Advt. Index, Page 7
Request Bulletins A-5, A-7 to 13
American Car & Fdry Co., New York
Dayton Mfg. Co., The, 2240 East Third St., Dayton, O.....See Advt. Index, Page 7
Edwards Co., The, O. M., Syracuse, N. Y.
Gilbert & Sons Brass Fdry. Co., A., St. Louis, Mo
Ives Co., H. B., New Haven, Conn.
McCord Mfg. Co., Inc., Detroit, Mich. Page 7
Universal window fixtures eliminate all drafts, dust, etc., and permit the loose fitting of sash which insures easy operation
Morton Mfg. Company, 5133-39 W. Lake Chicago.....See Advt. Index, Page 7
Duplex Weatherproof Window, doubly weathertight. Request Bulletin 10.
National Lock Washer Co., The, Johnson, Herman & Pennington Sts., Newark, N. J......See Advt. Index, Page 7
Railway Supply & Curtain Co., The, 612-618 S. Canal St., Chicago.....See Page 7
Triangle Tool Company, 162 E. 8th St., Erie, Pa.
Let us bid on your requirements.

Fixtures, Car Window, Weatherproofing

McCord Mfg. Co., Inc., Detroit, Mich. Page 7
Morton Mfg. Company, 5133-39 W. Lake St., Chicago.....See Advt. Index, Page 7
Duplex Weatherproof Window, doubly weathertight. Request Bulletin 10

Fixtures, Deck See Fixtures, Marine

Fixtures, Display (Showcase, Window, Etc.)

Batavia Specialty Co., Inc., Batavia, N. Y
Benjamin Electric Mfg. Co., 806 W. Washington St., Chicago.....See Page 7
Bragdon B, New York
Newman Mfg. Co., Cincinnati, O
Newton & Hoit Company, The, Chicago.
Universal Fixture Corp., New York

Fixtures, Electric See also Electrical Supplies

Benjamin Electric Mfg. Co., 806 W. Washington St., Chicago.....See Page 7
Newman Mfg. Co., Cincinnati, O., and Chicago
Reflectolyte Co., The, 914-T Pine St., St. Louis, Mo.....See Advt. Index, Page 7
REFLECTOLYTES are ideal lighting equipment for Public and Office Buildings, Department and Retail Stores, Banks, Churches, Schools and wherever a large volume of well diffused illumination is required.
Sears, Roebuck & Co., Chicago.....See Page 7

Fixtures, Electric, Acid Proof

Benjamin Electric Mfg. Co., 806 W. Washington St., Chicago.....See Page 7

Fixtures, Electric Cluster

Benjamin Electric Mfg. Co., 806 W. Washington St., Chicago.....See Page 7

Fixtures, Electric, Indirect Illumination

See Lighting Fixtures, Electric, Indirect Illumination

Fixtures, Electric Lighting See Lighting Fixtures, Various Classifications

Fixtures, Electric, Semi-Indirect See Lighting Fixtures, Electric, Semi-Indirect

Fixtures, Electric, Watertight, Railway and Marine

Appleton Electric Co., Chicago
Benjamin Electric Mfg. Co., 806 W. Washington St., Chicago.....See Page 7
Lovell & Co., F. H., Arlington, N. J
Seidler-Miner Co., Inc., Detroit, Mich.

Fixtures, Fire Door See Hangers and Fixtures, Fire Door

Fixtures, Gas and Electric See Electrical Supplies

Fixtures, Gas, Vapor and Weatherproof

Benjamin Electric Mfg. Co., 806 W. Washington St., Chicago.....See Page 7

Fixtures, Heavy Duty, Railroad

Benjamin Electric Mfg. Co., 806 W. Washington St., Chicago.....See Page 7
Dayton Mfg. Co., Dayton, O
Safety Car Heating & Lighting Co., The, New York
Williams, William E., New York.

BICYCLE LAMPS.

ELECTRIC.

DELTA.

COMBINATION HEAD AND TAIL LIGHT.

One Piece Drawn Steel Headlight 2½ in. in Diameter with Heavy Steel Fork Attachment Bracket, Welded on; Powerful Parabolic Reflector, Perforated at Base for Rear End Light; White Convex Front Lens; Red Semaphore Rear Lens, extends 1¾ in. in Height; Grade 1¾ Volt, 2 Candle Power Delta Bulb with Drawn Tungsten Wire Filament; Complete with 3 in. Special Waterproof Flexible Wire.

Lamp is attached to Left Side of Front Axle, under Axle Nut.

Heavy Steel Battery Box, Baked Black Enameled Finish, with Slide Switch conveniently located on Cover; Two Black Enameled Steel Channels with Bolts and Thumb Nuts for attaching to Cross Bar.

Operates on One Regular 6 in. Round Dry Battery, giving about 19 Hours Actual Service.

Per Dozen

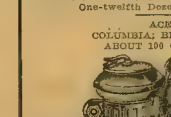
No. 80—WITHOUT BATTERIES; Weight per dozen about 18 lbs. $38.40

One-twelfth Dozen in a Cardboard Box.

ACETYLENE

COLUMBIA BICYCLE OR BUGGY.

ABOUT 100 CANDLE POWER.



This Lamp differs from the ordinary Gas Lamp—the Gas can be shut off at any time, saving the Gas that has already been generated; it will light at once if the Carbide has not all been used; It requires Less Carbide than any other Lamp; the Water Feed Tube is one piece of itself; Made entirely of Brass; 6 in. High, 2¾ in. Lens, with Spring Clasp Lens Catch; Large Jewel Side Lights; Lens Tip; Capacity ¾ Pint Water, and 2 oz. Carbide, Burns 6 Hours.

No. 245N—NICKEL PLATED; Weight per Dozen about 72 lbs. $104.00

BRASS, NICKEL PLATED; Height over all 8 in.; 2½ in. Beveled Glass Lens, removed by Putting pressure on the Lens Spring on the side of the Lamp; Red and Green Side Jewels, slide up and down in a slot to permit lighting; Fitted with Polished Tin Reflector; The Entire Top of the Lamp above the Water Reservoir removable by a half turn to the left; Reservoir regulated by a Lever on the back, screwed to Carbide Container, with Center Water Feed; Combination Head and Fork Bracket, Felt Lined, fastens with Thumb Screws.

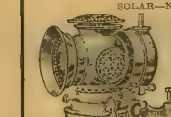
Two-cone Carbide Generator

SEARCH LIGHT—ABOUT 100 CANDLE POWER

Per Dozen

No. 56—Reservoir Holds Sufficient Water to Last 10 Hours; Weight per Dozen about 24 lbs. $82.50

SOLAR—NEW MODEL "S."



Special Heavy Gauge Brass, Nickel Plated and Polished; 7 in. High; Carbide Container, with False Bottom, 2¾ in. in Diameter, is Fastened to Body of Lamp by Two Lugs that fit into Slots on Both Sides of Lamp, and by turning, draws Container Tightly against Rubber Washer; 2¾ in. Double Convex Lens, with Snap Lens Catch; 1⅜ in. Red and Green Jewel Side Lights; Lava Tip; Flat Flame; Removable Polished Reflector; Capacity ¾ Pt. of Water and 3 ozs. of Carbide; Burns Five Hours; Uses Lump Carbide; Bracket is Felt Lined, fastens with Thumb Screws.

Per Dozen

No. 1984N—WITH SHIPP BRACKET $36.50

Weight per Dozen about 24 lbs.

One-twelfth Dozen in a Cardboard Box.

BICYCLE LAMPS.

ACETYLENE

LIBERTY.

Special Heavy Gauge Brass throughout; Highly Nickel Plated and Polished, 6 in. High; 3 in. Convex Front Lens, in Hinged Frame; Held securely by Three Clasps on Inside of Frame; Door Hinged and Fastened by Wire Spring Catch; Carbide Container 2¾ in. in Diameter; Fastened to Body by Two Lugs that fit into Slots on Both Sides of Lamp, and by turning draws Container Tightly Against Rubber Washer, Fitted with a ⅜ in. Gas Tip; Brass Needle Valve for regulating water flow.

Capacity ¾ pt. of Water and 3 ozs. of Carbide; Burns Five Hours.

Per Dozen

No. 1—With Shipp Bracket; Weight per dozen about 18 lbs. $66.00

One-twelfth Dozen in a Cardboard Box.

FOR KEROSENE OIL—EVERLIT.

Brass Throughout, Nickel Plated and Polished; 6¾ in. High; 2¾ in. Heavy Magnifying Lens in Hinged Frame, Fastens with a Spring; Polished Aluminum Removable Reflector; Red and Green Jewel Side Lights; Top Chimney can be Unscrewed for Cleaning; Ratchet Burner can be Regulated from Light or Left; Fitted with No. 1 Flat Wick; Burns Kerosene; Oil Fount Capacity about ¾ Pint, and Filled with Cotton to Prevent the Oil from Splashing, acts as a further Safeguard it has a Reservoir around the Threaded Collar into which the Burner Screws to Prevent the Oil from getting on the outside of the Fount. Fount Fastened to Lamp by Quarter Turn; Bracket Clamp Hung on a Spring.

No. 2117—BRACKET NOT INCLUDED; Weight per Dozen about 13 lbs. ..... Per Dozen, $56.00

One-twelfth Dozen in a Cardboard Box.

MOUNTED BURNER TIPS.

FOR BICYCLE LAMPS.

Per Dozen

No. 1M—For SEARCHLIGHT Bicycle Lamps. Aluminum Mounting, Threaded; Weight per dozen about ⅜ lb. $2.50

Per Dozen

No. 2M—For SOLAR Bicycle Lamps; Brass Mounting, Threaded; Knurled Edge; Weight per dozen about ⅜ lb. $2.50

Per Dozen

No. 3M—For TWENTIETH CENTURY Bicycle Lamps; Aluminum Mounting; Serrated Edge; Weight per dozen about ⅛ lb. $2.50

Per Dozen

No. 4M—For COLUMBIA Bicycle Lamps; Brass Mounting; Weight per dozen about ⅛ lb. $2.50

LAVA TIPS.

FOR BICYCLE LAMPS

Made of very Hard Composition; Not affected by Heat and will not Carbonize; Proper size for all Acetylene Lamps; One Hole on each side of V through which gas escapes and makes perfectly flat flame.

No. 1—QUARTER FOOT; Height 1½ in. Tapered Shank; Diameter of Top ½ in., Diameter of Bottom ⅝ in. ..... Per Dozen, $1.40

Packed Loose; Weight per Dozen about 1 oz.

For Nearly a Century the Store of Service.

BILLMONT WRENCHES

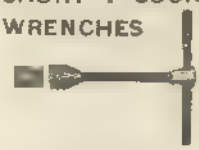
No. 2 JUNIOR WRENCHES

A big, durable wrench, 11½ inches long, of great strength and of large capacity. Nickel and Parker rust-proof finish.

Similar to the Master Wrench, excepting universal nose, is straight instead of curved, and takes all 24 Billmont Sockets, ⅜ to ⅞ inch in hexagon and ⅜ to ¾ inch in square.

Price ..... each **3.25**

No. 3 SHORT T SOCKET WRENCHES

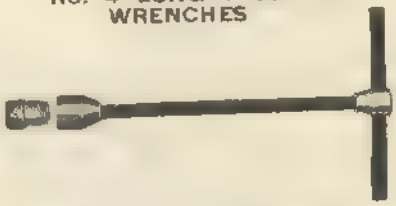


The nose is made to take the entire 24 sizes of Billmont Sockets, giving varied range of jobs without need of more than one wrench.

The solid bar handle equalizes the strain of turning the wrench, giving unusual strength. Length, 6 inches.

Price ..... each **.90**

No. 4 LONG T SOCKET WRENCHES



Similar in every detail except size to No. 3 Short Socket Wrench.

The Billmont principle of few wrenches and a universal nose piece makes possible the carrying of a complete range of tools in a small kit, eliminating the necessity of many wrenches each of a different size. Length, 10½ inches.

Price..... each **.95**

No 6 RIM BRACE WRENCHES

Not only adaptable for rim work, but popular with car owners and repairmen because the nose piece takes 24 sizes of Billmont Sockets ranging from ⅜ to ⅞ inch hexagon and ⅜ to ¾ inch square, giving the user practically 24 sizes in rim braces with the need of only one handle or holder and thereby creating a wrench of many uses and great service. Length 13¼ inches.

Price..... each **1.50**

No. 7 SPEEDER SOCKET WRENCHES

An unusually popular speeder because, following the Billmont principle, the universal nose piece takes all Billmont sizes (24 in all) of sockets ranging from ⅜ to ⅞ inch hexagon and from ⅜ to ¾ inch square, rendering the repairman, assembler or car owner an immediate and wider range of uses than has ever before been possible in this kind of tool. Length, 22⅝ inches.

Price..... each **1.30**

No. 5 OFFSET SOCKET WRENCHES

As in other Billmonts, the universal nose takes 24 Sizes in Billmont hexagon and square sockets. Handle designed with upward bend, gives a most unusual clearance, permitting better operation and avoiding skinned knuckles. Made from solid bar steel, selected with the utmost care. Length, 7½ inches.

Price ..... each **.75**

BILLMONT WRENCHES

No. 150 DISPLAY BOARD OF BILLMONT WRENCHES

Merchandise well displayed is half sold. This splendid board gives the car owner a chance to sell himself while the dealer may be busy otherwise

3 Master Wrench Sets	31 50
3 Junior "	9.75
10 Short T Socket Holders	9 00
10 Long T "	9.50
10 Offset " "	7 50
10 Speeder " "	13 00
10 Rim Braces	15 00
1 Display Board	Free
Complete Outfit	95.25

No. 8 RATCHET WRENCHES

Designed by Billmont engineers to give the tool owner the final word in ratchet principle efficiency, the Billmont Ratchet Wrench is unquestionably the greatest improvement in modern wrench making.

6-INCH EXTENSION

The unique construction allows the smallest possible adjustment so that it will operate in a space where handle has only ¼ inch headway [illegible] recommending this wrench [illegible] to be equaled [illegible]

11 INCH EXTENSION

Like other Billmonts the ratchet hexagon opening will take any size of Billmont sockets, 24 in all, giving the user a ratchet wrench of diversified uses and a wide range of operation on different size nuts

The two shank attachments snap into the opening for use when deep [illegible] nuts or bolts are to be used and can also be operated with different size Billmont sockets. Length, 12 inches; hexagon opening ¾ inch

Price No. 8 Wrench each	3.25
" " 9. 6-inch Extension each	.85
" No. 10, 11-inch Extension each	.90

Write us Your Requirements for Goods Not Listed.

For Nearly a Century the Store of Service.

BLACKSMITHS' VISES

FISHER DOUBLE SCREW PARALLEL CHAIN LEG VISE

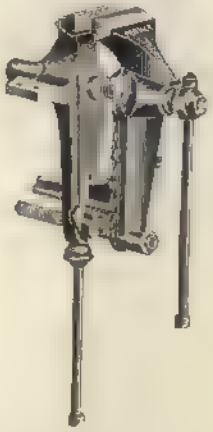


Fig. 7642A

SOLID BOX LEG VISE

Fig. 7642B

FISHER DOUBLE SCREW PARALLEL CHAIN LEG VISES

The jaws are of the best tool cast steel welded on, file cut properly hardened, and of convenient size for the workman to get near his work, equally well for filing or chipping. The solid slide prevents any dropping or twisting of the front jaw and the threads being cut in the solid metal of the back jaw, do not give out

Number	2	3	4	5	6
Size Jaws inches	4½x1	5¼x1⅝	6¼x1¾	7x1½	8x1½
Open "	5½	6½	7½	9	12
Diameter Screw "	1⅛	1¼	1½	1¾	1⅞
Length Lever "	18	18	19	24	26
Weight pounds	65	90	120	160	210
Price each	12.00	16.00	20.50	27.00	35.00

SOLID BOX LEG VISES

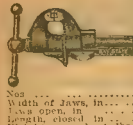
Owing to the depth of the throat this vise is adaptable to a large range of work. The open end box makes the screw self cleaning and minimizes wear on the threads. The close-contact of each plate on this vise is simple, strong, and rigid

No	Length of Jaws Inches	Depth from Top of Jaw to Top of Box Inches	Vise Opens Inches	Price Each	No	Length of Jaws Inches	Depth from Top of Jaw to Top of Box Inches	Vise Opens Inches	Price Each
35	4	3¼	3¾	10.00	125	6½	6	6½	27.50
50	4¼	4⅛	4½	11.50	150	7	6½	7	36.00
70	5	4¾	5¼	16.00	200	8	7½	8	56.00
100	6	5½	6	22.00	...	...	...	...	.....

NOTE —The number of vise is also the weight pounds.

VISES.

BAY STATE*



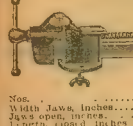
FARMERS' OVAL SLIDE.

Cast Iron Frame, Painted Black; Polished Steel Sliding Bar, Screw and Handle; Hardened and Polished Tool Steel Jaws.

Nos.	BF30	BF31	BF33	BF34
Width of Jaws, In.	2½	3	3½	4
Jaws open, In.	3½	4	4½	5
Length, closed, In.	10½	13	15	18
Weight each about, lbs.	4½	7	10	16
Each	$5.10	$7.00	8.00	13.80

BAY STATE*

STATIONARY BASE.



Cast Iron Frame, Lacquered; Polished Sliding Bar; Polished Cold Rolled Steel Screw and Handle; Hardened and Polished Tool Steel Jaws; Provided with an Anvil with Polished Face; Furnished with Center Bolt and Washer for Fastening to Bench.

Nos.	B331	B332	B333
Width of Jaws, inches	3½	3	3½
Jaws open, inches	6	3½	4
Length, closed, inches	10	11¾	15¾
Weight each about, lbs.	9	11	15
Each	$8.20	10.20	11.10

Packed Loose.

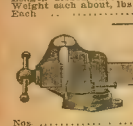
REED

Heavy Cast Steel Frame, Japanned; Polished Jaws and Sliding Bar; Highest Grade Tool Steel Inserted Jaws, Carefully Hardened; Tool Steel Screws, Milled and Fitted into Milled Malleable Iron Nut in Body; Natural Finish Steel Handle; All Parts Finished to Limit Gauges and are Interchangeable in Every Way.

MACHINISTS'—STATIONARY BASE.

Nos.	103	103½	104	104½
Width of Jaws, In.	3	3½	4	4½
Jaws Open, In.	5	6	7	8
Length Closed, In.	14	16	18	20
Weight each about, lbs.	25	41	54	74
Each	$17.20	19.30	22.60	26.70

MACHINISTS'—SWIVEL BASE



Body Rotates on Milled Column; Rotation is Stopped Automatically when work is Tightened in Jaws; Clamping Bolt works in V Shaped Channel, which prevents slipping.

Nos.	203	203½	204	204½
Width of Jaw, inches	3	3½	4	4½
Jaws Open, inches	5	6	7	8
Length Closed, inches	14	16	18	20
Weight each about, lbs.	34	43	49	74
Each	$22.30	26.00	29.00	34.00

COMBINATION PIPE—SWIVEL BASE.

Jaws Milled from Solid Tool Steel Bars, Tempered in Oil; Front Jaw is reversible, so that when worn it can be turned and thus have a new Jaw.

Swivel Base is fitted with Legs for Bolting to Bench.

Nos.	31	32
Width of Jaws, Inches	3½	4½
Jaws Open, Inches	4	6
Pipe Capacity, Inches	⅛ to 2½	⅛ to 3½
Length Closed, Inches	18	20
Weight each about, lbs.	46	73
Each	$28.10	40.00

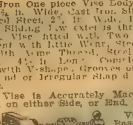
Packed Loose

VISES.

YANKEE.

Cast Iron One piece Vise Body and Front Jaw, 7⅛ in. Long, 2¾ in. Wide, Cast Iron Sliding Jaw, Face of Jaws Hardened Steel, 2⅜ in. Wide, 1⅝ in. Deep; Jaws open 3¾ in. Sliding Jaw cuted in through Slot 1 in. Wide in Body c. Vise fitted with Two Key seating Rack Movement with Little Wear, Steel Sliding Jaw, 3 in. in ter, with Acme Thread, Steel Sliding Jaw, 3 in. Diame c. 4¾ in. Long, Complete, with Hardened Steel Block with V-shape Grooves of Various Sizes for holding Round or Irregular Shaped Work in Drilling, Shaping, etc.

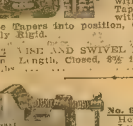
This Vise is Accurately Machined all over and can be used on either Side, or End, as well as on Base.



Vise Mounted on Swivel Base, which is easily and Simply Locked or Released by a Short Movement of Lever on One Side. 4¾ in. in Diameter, with three Bosses on under Side to give level bearing on bench; Upper Part of Swivel fitted with Taper Piece to receive Taper End of Sliding Jaw which Set Screw in One End to Force Tapers into position, Clamping Vise and Base Perfectly Rigid.

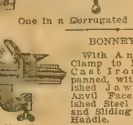
Each

No. 19½—VISE AND SWIVEL BASE; Height over all 5⅝ in; Length, Closed, 8½ in; Weight each about lbs. $13.90



One in a Corrugated Cardboard Box.

BONNET'S



With Anvil; Clamp to Bench; Cast Iron, Japanned, with Polished Jaws and Anvil Face, Polished Steel Screw and Sliding Lever Handle.

No. 4B. No. 33.

Per Dozen

No. 1B—With Plain Clamp Screw, Plain Jaws; WIDTH OF JAWS 1¼ IN.; Jaws Open 2¼ in.; Length, Closed, 4½ in.; Weight per dozen about 15 lbs. $21.50

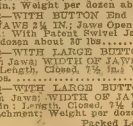
No. 2B—With Plain Clamp Screw, Plain Jaws; WIDTH OF JAWS 2 IN.; Jaws Open 2¾ in.; Length, Closed, 5⅝ in.; Weight per dozen about 19 lbs. 30.70

No. 3B—WITH BUTTON End Clamp Screw; WIDTH OF JAWS 2¼ IN.; Jaws Open 3¾ in.; Length, Closed, 6 in.; With Patent Swivel Jaw Attachment; Weight per dozen about 30 lbs. 51.00

No. 4B—WITH LARGE BUTTON End, Clamp Screw, Plain Jaws; WIDTH OF JAWS 2⅝ IN.; Jaws Open 3¾ in.; Length, Closed, 7⅛ in.; Weight per dozen about 50 lbs. 60.30

No. 7B—WITH LARGE BUTTON End Clamp Screw, Plain Jaws; WIDTH OF JAWS 2⅝ IN.; Jaws Open 3¾ in.; Length, Closed, 7⅛ in.; With Patent Swivel Attachment; Weight per dozen about 54 lbs. 86.50

Packed Loose.



BONNET'S.

Highest Grade Gray Iron Frame and Jaws; Malleable Iron Nuts and Thumb Screws, with Machine Cut Thread; Black Japanned Frame; Polished Anvil, Jaws, Screw and Sliding Lever Handle.

Display Stand has Cast Iron Sides or Leg Pieces Black Japanned and Two Stained Hardwood Shelves; Height over all 14⅝ in.; Width 13½ in.; Depth 10 in.

Per Assortment

No. 10A—ASSORTMENT CONSISTS OF 1 DISPLAY STAND AND 17 VISES, as follows: ½ dozen each, Nos. 00 and 01, ¾ Dozen No. 02 and ½ Dozen No. 02½; Weight per assortment about 38 lbs. $43.10

One Assortment in a Wood Box

VISES.

KEEN KUTTER*.

Extra Heavy Cast Steel Frame, Japanned; Polished Jaws and Sliding Bar; Special Tool Steel Screws, Milled and Fitted into Milled Malleable Iron Nut in Body, which insures long wear; Natural Finish Steel Handle; Highest Grade Tool Steel Inserted Jaws, Carefully Hardened; All Parts Finished to Limit Gauges and are Interchangeable in Every Way.

MACHINISTS'—STATIONARY BASE.

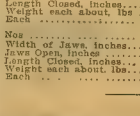
Nos.	KM300	KM312	KM400	KM412	KM500
Width of Jaws, in.	3	3¼	4	4¼	5
Jaws Open, in.	4	4	6	6	8
Length Closed, in.	14	16	18	20	22
Wgt. each abt., lbs.	26	28	43	54	71
Each	$18.00	20.00	22.80	27.70	35.70

MACHINISTS' SWIVEL BASE.

Body Rotates on Milled Column; Clamping Bolt works in V Shaped Channel, giving a Positive Grip which allows no Slip, and Rotation is Stopped Automatically when work is Tightened in Jaws.

Nos.	KS300	KS312	KS400
Width of Jaw, inches	3	3¼	4
Jaws Open, inches	4	4	6
Length Closed, inches	14	16	18
Weight each about, lbs	28	30	45
Each	$23.30	27.00	30.00

Nos.	KS412	KS500
Width of Jaws, inches	4¼	5
Jaws Open, inches	7	8
Length Closed, inches	20	22
Weight each about, lbs	54	87
Each	$33.70	54.00



COMBINATION PIPE— SWIVEL BASE.

Designed for Severe Service; Reinforced where Strain is Greatest; Jaws Milled from Solid Tool Steel Bars; Tempered in Oil; Front Jaw is reversible, so that when worn it can be turned and thus have a new Jaw.

Swivel Base is fitted with Lugs so that it can be Securely Bolted to Bench instead of being Screwed down.

Nos.	KC312	KC412
Width of Jaws, inches	3¼	4¼
Jaws Open, inches	4	5
Holds Pipe, inches	⅛ to 2¼	⅛ to 2½
Length Closed, inches	13	20
Weight each about, lbs	40	72
Each	$30.80	42.00

Packed Loose

We extend to our customers who appreciate the value of local and direct advertising all the local assistance that brains can devise.

We furnish Booklets and Window Signs that tell people you have the *KEEN KUTTER* things they want; Fence and Barn Signs, Street Car Cards, Store Cards and Cuts, to illustrate your local newspaper advertising.

All this help is given every Dealer FREE

SEND FOR OUR NEW WANT BOOK

VISES.

OAK LEAF*

Special Alloy Cast Steel Frame, Dull Black Finish; Polished Sliding Bar; Cold Rolled Steel Screw and Handle Handle Polished; Tool Steel Jaws, Carefully Hardened and Polished; Malleable Iron Nut.

MACHINISTS' SWIVEL BASE; ADJUSTABLE JAWS.

Nos.	E43	E44	E45
Width of Jaws, inches	3½	4	4½
Jaws Open, inches	4	6	6½
Length Closed, inches	16½	18	21½
Weight each about, lbs	48	66	71
Each	$32.50	38.50	46.00

MACHINISTS' SWIVEL BASE; SOLID JAWS.

Nos.	E63	E63½	E64	E64½	E65
Width of Jaws, in.	3	3½	4	4½	5
Jaws Open in.	3½	4½	5½	6½	8
Length Closed, in.	11	13	15	16½	18¾
Wgt. each about, lbs	22	28	38	52	68
Each	$19.30	21.00	24.00	28.00	33.00

MACHINISTS', STATIONARY BASE; SOLID JAWS.

Nos.	E3	E3½	E4	E4½	E5
Width of Jaws, in.	3	3½	4	4½	5
Jaws Open, in.	3½	4½	5½	6½	8
Length Closed, in.	13	15	16	18½	18½
Wgt. each about, lbs.	18	24	30	45	56
Each	$14.00	16.50	18.00	21.00	25.50

COMBINATION PIPE. SWIVEL BASE.

Extra High Grade Tool Steel Pipe Jaws, Carefully Hardened.

Nos.	E31	E32
Width Jaws, in.	3⅜	4½
Jaws, Open, in.	4½	5
Holds Pipe, in.	⅛ to 2½	⅛ to 3½
Length Closed, in.	16½	18
Weight each about, lbs.	50	68
Each	$27.50	38.00

Packed Loose.

OAK LEAF*

Plain Cast Iron Jaws, Ground so as to Meet Squarely when Tightened; One Piece Cold Rolled Screw with Square Lathe-cut Threads. Equipped with Anvil and Sliding Lever Handle; Brown Japanned; Polished Jaws, Anvil Face, Head and Lever Handle; Clamp Base.

Nos.	E741	E742	E743	E745
Width of Jaws, inches	1½	1¾	2	3½
Jaws open, inches	2¾	3	3¾	5
Length Closed, inches	4⅝	5½	6⅜	8⅝
Weight per dozen about, lbs.	26	39	42	72
Per dozen	$36.20	45.40	58.00	75.00

Packed Loose; Wrapped in paper

WRENCHES.

TAP.

Drop Forged, with Tool Steel Jaws, Tubing Handles.

		Net each
NO. AM52	Length 10½ in., for hand taps ⅜ to ⅝ in.	$4.32
NO AM53	Length 16 in., for hand taps ½ to ¾ in.	5 50

ONE IN A BOX.

ADJUSTABLE TAP.

Finest Tool Steel, Carefully Tempered and Polished.

For use with machinists hand taps and screw taps.

		Net per doz
NO. AM329	Length 8½ in., for machine screw taps Nos. 2 to 14, straigh shank taps ⅜ to ½ in., and taps with W. & R. No. O style of shank, wt. 2 lbs. per dozen	$14.40
NO AM333	Length 5½ in., for machine screw taps Nos. 14 to 24 and hand taps ⅜ to ½ in., wt. 5 lbs. per dozen	28 80

ONE IN A BOX

RATCHET TAP.

YANKEE

The ratchet mechanism is the same construction used in other Yankee tools With the shifter at top, it is left hand, at bottom, right hand; and in center rigid, as ordinary Tap Wrench.

		Net each
NO. AM251	Holds up to ⅜-in. taps, outside diameter of chuck, ¾ inch; length over all 5-inches	$3 50
NO. AM1251	Same as No. 251, except length over all is 13 inches, for work in steel cars, etc., and where long reach is necessary	4.50

ONE IN A BOX

ASSORTMENT ON DISPLAY BOARD.

Assortment Contains Three of Each of The Following

22½° GENERAL PURPOSE.

NOS.	Openings Finished Inches	Extreme Length Inches
AM500	⅜ & ½	6½
AM502	½ & ⅝	8½
AM504	⅝ & 1	10½

15° ENGINEERS

NOS.	For U. S. Standard Nuts Size Bolts	Openings Milled	Extreme Length
AM21	⅜ & ⅞	⅜ & ⅞	3¾
AM23	½ & ¾	½ & ¾	4
AM25	⅝ & ⅞	⅝ & ⅞	4½
AM27	⅞ & 1	⅞ & 1	5½
AM29	⅞ & 1⅛	1 & 1⅛	6½
AM31	1⅛ & 1¼	1⅛ & 1¼	7½
AM34	1¼ & 1½	1¼ & 1⅜	9½

Each wrench is hardened and the ends are ground and polished. The bodies are finished in dead-black enamel.

The display board is designed to hold three wrenches of each size, a total of thirty wrenches The number as well as the suggested resale price is found at the side of the hooks provided for each size. Size of display board, 7½x25 inches.

		Net each
NO. AM60	Complete assortment with board, in carton, weight 20 lbs.	$20 00
NO AM61	Refills for No. 60 assortment, thirty wrenches without board, weight 15 lbs	18.00

GENERAL PURPOSE.

For general use where a light long wrench is required, especially adapted for farming implements, plows, buggies, wagons, etc.

STRAIGHT SIZES.

Drop Forged Steel, Unfinished.

	Size Bolts	Opening	Length	Thickness	Net each
NO. AM500	⅜ and ½	⅜x½ in.	6½ in	⅛ in.	$0.40
NO. AM501	½ and ⅝	½x⅝	7½	¼	.50
NO. AM502	⅝ and ¾	⅝x¾	8½	⅜	.64
NO. AM503	¾ and ⅞	¾x⅞	9½	⅜	.70
NO. AM504	⅞ and 1	⅞x1	10½	½	.92

IN SETS.

		Net per set
NO. AM 16P	Unfinished, steel tempered and hardened	$1.76
NO. AM26P	Semi Finished, drop forged steel, polished jaws	3.90
NO. AM36P.	Unfinished, drop forged steel	2.70

ONE SET OF FIVE NOS. 500 TO 504 IN A CARD BOARD BOX. WEIGHT 9 LBS. PER SET.

NUT.

For Square and Hexagon Nuts.

For putting on and taking off nuts in carriage work.

		Net each
NO. AM602	Sizes, for bolts ⅛, ¼, ⅜, ½ in. diameter, size of opening is ⅛, ¼, ⅜, ½ and 1 in. square, weight ½ lb. each.	$0.42

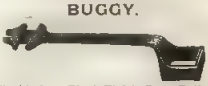
"S."

Badger Arnholt, Best Quality, Malleable Iron, Clean, Smooth and Bright.

This wrench is very superior to those commonly furnished the trade. It is very serviceable and a popular seller.

		Net per doz.
NO. AM2340	Length 10½ in., for ½ to 1½ in. nuts weight 8 lbs. per dozen	$2.20

BUGGY.



Malleable Iron, Black Finish, Deep Pattern.

NOS.	AM2320	AM2321	AM2322	AM2323
Length	8½	9	9½	9½ in.
Axle nuts	¾	¾	1	1¼ in.
Weight dozen	6	7	7½	8 lbs.
Net per dozen	$1.68	1.84	2.08	2.14

NOS.	AM2324	AM2325	AM2326	AM2327
Length	10	10½	10½	10½ in.
Axle nuts	1¼	1⅜	1⅜	1⅜ in.
Weight dozen.	9½	10	12	14 lbs.
Net per dozen	$2.64	2.80	3.36	3.92

"PAGOMA" is an unlimited guarantee.

HORNS AND WHISTLES

These numbers are in popular demand. A good display in your store will pay you well in sales and profits. Buy your needs here and get the fullest values

HAND ACTUATED AUTO HORNS

"Reliable" — Black enamel vanadium steel diaphragm, adjustable contact points, machine cut tool steel gears, brass bushing, oval nickel bell projector.
4K9065—1 in box
Each, $2.35
Lots of 10, " 2.22

"Stewart" — (Mfrs. 114-A) Black enamel 1 pc. seamless bell specially designed diaphragm, machine cut gears, ball and roller bearings, swivel bracket.
4K9040—1 in box
Each, $3.50

"TOURIST" MOTOR DRIVEN HORN

4K9026—6½ in., black finish, Underwood type, nonrusting only 6 volts, a saving on battery, high grade motor, vanadium diaphragm, tool steel gears, adjustable contact point. 1 in box
Each, $3.75

BUELL EXPLOSION WHISTLE—With Splitdorf Spark Plug

4K9039—¾ in. thread, high grade casting, nickel plated whistle. Complete with cord washer and Splitdorf spark plug
Each, $5.95

SAFETY WARNING WHISTLE

4K9029 — Solidly built of heavy castings and metal stampings, nothing to break or get out of order, heavy nickel finish, no wiring or short circuiting. For all cars and trucks equipped with primary plugs. Each complete in box. Each, $2.25

YOU ARE PROTECTED

THIS merchant who makes this catalogue his buying guide need never worry about the fluctuations of the market. Bottom prices are always quoted in the book.

BOYCE MOTOR METERS.

Attach to radiator caps. Accurately registers condition of engine. Red fluid in thermometer tube gives warning. Luminous wire screen makes easy reading in the dark.

4K9420—Midget, 4 in. for small cars, Maxwell, Chevrolet, Briscoe etc.
Each, $1.95
Lots of 10, " 1.75

4K9421—Special Ford Model, 4 in., inclusive black rubber cap of highest grade
Each, $2.60
Lots of 10, " 2.45

4K9422—Junior, 5½ in., for medium size cars.
Each, $3.75
Lots of 10, " 3.50

4K9423—Universal, 5½ in., heavy construction, beveled glass.
Each, $5.50
Lots of 10, " 5.25

4K9424—Standard, 6 in., high gloss enameled, beveled glass, for high priced cars.
Each, $7.50
Lots of 10, " 7.00

REPLACEMENTS

Dependable goods in constant demand. The items shown have been selling steadily for the past season, thus proving their market potentialities and adaptable characteristics. Because of our large buying power we are able to quote very low prices.

AXLE SHAFTS

Heat treated. Not rolled steel, accurately ground. 1 in pkg.

Chevrolet—Model 490,
4K8347— Each, $1.25

Maxwell—Models 1914 to 1919,
4K8580—Right hand " "
4K8581—Left " " Each, $1.50 " 1.50

Dodge—Models 1916 to 1919
4K8350— Each, $1.80

Dort—Models 9-11,
4K8351— Each, $2.85

Overland—Models, 75T, 75S, 90S, 90OO,
4K8365—Right hand. Each, $2.65
4K8355—Left " " " 2.65

Overland—Model 90T
4K8356—Right hand " Each, $2.65
4K8355—Left " " " 2.65

Overland—Model 90ET
4K8356—Right or left hand Each, $2.65

Studebaker—Model 1915 to 1919.
4K8357—4 and 6 cylinder models Each, $2.65

"PEERLESS" RADIATOR

For Chevrolet 490—1918 to 1920

4K8414 — 1 pc. construction, heavy gauge steel shell, coats black enamel honeycomb core case, all parts in contact with water are brass, good Retin radiator cap. 1 in crate, 50 lbs.
Each, $27.50

"VULCAN" AUTO SPRINGS

Write for quotations on springs to fit all cars. Ask for discount sheet for special proposition covering an assorted order of 12 VULCAN springs with a useful display rack free.

VULCAN springs are known throughout the world for their high and uniform quality. Each VULCAN spring is made an exact duplicate in shape and design of the spring it is intended to replace, but is always of superior quality. Cars with broken springs that are replaced with genuine VULCAN springs are wonderfully improved as to riding quality and dependability. Each VULCAN spring is oil tempered and carefully heat treated, and painted with good black paint, and the VULCAN metal name plate is shown at the center of the spring.

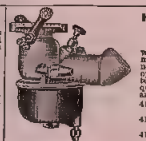
"INLAND" PISTON RINGS

Gas tight, gives more power on less fuel and oil. Reduces carbon and increases pressure. Each ring in dampstat transparent envelope.

4K7822—2½x⅛
4K7819—2½x⅛
4K7827—2½x⅛
4K7817—2¾x⅛
4K7820—3¼x⅛
4K7816—3¼x⅛
4K7821—3¼x⅛
4K7815—3¼x⅛
4K7825—3¼x⅛
4K7818—3¼x⅛
4K7826—3¼x⅛
Each, 87½c

4K7811—4x⅛ Each, $1.05

KINGSTON CARBURETORS



Prevents impurities, dirt and water from being taken into motor. Sediment cannot clog needle valve nor interfere with operation. Fuel strainer counteracts bad effects of low quality gasoline. Fully guaranteed.

4K9240—For Chevrolet 490.
Each, $7.70
4K9244 For Maxwell all models Each, $8.75
4K9245 For Dodge all models Each, $10.50

"HARTFORD" NEW OILLESS BEARING SHOCK ABSORBER SET

4K9285 — (Model 103) high grade steel, black enamel, completely controls both friction and reaction of springs, prevents breakages. Fits most of the popular makes of cars. Complete, 4 in set
Sec. $56.25

NOTE. When ordering specify make, model and year of car. If sets for front or rear will be furnished at ½ set prices.

"HOLT-ON" HOOD CLIP SET

For Chevrolet and Briscoe Cars

4K9079—Spring clip, easily attached, holds hood tight and free from rattle, black enamel finish. 4 in set
Sec. $1.50

TOURING CAR ONE MAN TOPS For Maxwells and Chevrolets 1917 and later models

Fit all models, improved style, heavy grade mohair, four bell frame, equipped with latest style colonial pattern curtain, oblong celluloid window lights.
4K9439—For Maxwells Each,
4K8437—For Chevrolet 490 " $37.50

TOURING CAR TOP RECOVERS For Chevrolets, Maxwells and Dodges 1917 and later models

Heavy motor cloth standard wt. rear curtain, regulation celluloid window light, 6½x11 in nickel frame. Deck quarters and rear curtains, complete. Fit the following cars

4K9433—For Chevrolets. 490 Each, $18.50
4K9434—For Maxwells " 17.50
4K8435—For Dodges " 16.25

Gill 1 Pc. Piston Rings

"The perfect 1 pc. piston ring." In big demand. Be sure to have some in stock.

Neither fuel nor oil can leak past this lock seam joint. The reason why is plain.

Special gray iron, 1 pc. castings, hold their shape, maintain ring tight contact with cylinder walls, perfect compression prevents oil pumping, increases power, reduces carbon to a minimum. Each wrapped in moisture proof paper. 1 doz. in carton.

4K7853—2¾x⅛	4K7857—3½x⅛
4K7854—3x⅛	4K7858—3½x⅛
4K7811—3¼x⅛	4K7859—3¾x⅛
4K7855—3¼x⅛	4K7860—3¾x⅛
4K7856—3½x⅛	4K7815—3¼x⅛
4K7858—3¾x⅛	4K7895—3¼x⅛
Doz. $8.00	4K7866—3¾x⅛
12 doz. lots,	Doz. $8.00
Doz. $7.20	12 doz. lots,
	Doz. $7.20
4K7807— 2¾ "	
4K7868—3½x⅛	Doz. $10.00
4K7870—3¼x⅛	12 doz. lots, " 9.00

Special Note

We can furnish all standard size rings upon receipt of your order. All standard sizes can be furnished in the following oversize .005 .010 .015 .020 .025 .030 .040 .050 .055 .062.

When over widths are required always order ⅛ over standard.

FIRE EXTINGUISHERS.

THE GUARDIAN.

APPROVED BY ALL STATE HOTEL INSPECTORS

Each

No. G—COMPLETE, WITH HANGER AND CHARGE; CAPACITY 3 GALLONS; Maximum Pressure 110 lbs.; Duration of Stream 2 Minutes; Height 21¾ in.; Diameter 7 in.; Weight, when Empty, 17¾ lbs.; Weight, Charged and Ready for Use, 38 lbs.....$29.50

One in a Carton.

DIRECTIONS FOR OPERATING AND CHARGING are in Large Letters on a Brass Label permanently attached to it.

Approved and Accepted by the National Board of Fire Underwriters and Tested under their Supervision.

Adopted and used by the U. S. Government.

The Shell is constructed of Heavy Cold Rolled Copper and tested by Hydrostatic Pressure to 385 lbs. to the Square Inch; Double Headed Joints; Double Loaded and Reinforced by a Special Sweating Process.

Interior is Lined with Lead to Prevent Disintegration of the Copper by Chemical Action.

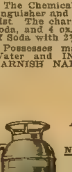
All Castings are of Hard Red Brass.

The Cage is made Extra Strong and arranged for the ready removal and replacement of the Acid Bottle.

The Bottle is of commercial form and size and in the event of breakage can readily be duplicated by any local druggist.

The Chemicals used are the same as in any other Extinguisher and can readily be procured at any local druggist. The charge is as follows: 1½ lbs. Bi-Carbonate of Soda, and 4 oz. of Sulphuric Acid; Mix the Bi-Carbonate of Soda with 2½ Gallons of Water.

Possesses many times the Extinguishing Power of Water and INSTANTLY QUENCHES BURNING TAR, VARNISH, NAPHTHA, PETROLEUM, OILS, ETC.



GUARDENE.

APPROVED BY THE UNDERWRITERS LABORATORIES, INC.

Each

No. P2½—COMPLETE, WITH HANGER AND CHARGE; CAPACITY 2½ GALLONS; Maximum Pressure 100 lbs.; Duration of Stream 2 minutes; Height 21¾ in.; Diameter 7 in.; Weight when Empty 16 lbs.; Weight, Charged and Ready for Use 40 lbs.....$30.00

One in a Carton.

DIRECTIONS FOR OPERATING AND CHARGING are in Large Letters on Brass Label permanently attached to it.

Tested, Approved and Labeled by the Underwriters Laboratories, Inc.

The Shell is Constructed of Heavy Cold Rolled Copper and tested by Hydrostatic Pressure to 350 lbs. to the Square Inch; Double Headed Joints Double Loaded and Reinforced by a Special Sweating Process.

Interior is Lined with Lead to Prevent Disintegration of the Copper by Chemical Action.

All Castings are of Hard Red Brass.

The Cage is made Extra Strong and arranged for the ready removal and replacement of the Acid Bottle.

The Bottle is of commercial form and size and in the event of breakage can readily be duplicated by any local druggist.

The Chemicals used are the same as in any other Extinguisher and can readily be procured at any local druggist. The charge is as follows: 1½ lbs. Bi-Carbonate of Soda, and 4 oz of Sulphuric Acid; Mix the Bi-Carbonate of Soda with 2½ Gallons of Water.

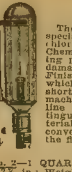
Possesses many times the Extinguishing Power of Water and INSTANTLY QUENCHES BURNING TAR, VARNISH, NAPHTHA, PETROLEUM, OILS, ETC.

We carry heavier stocks and a more complete assortment than is shown by any other house.

This gives YOU the advantage of OUR having the goods when you want them

The best assortment of goods in America is at your disposal.

FIRE EXTINGUISHERS.



BOYCE

The Liquid used in these Extinguishers is specially Prepared, having Carbon Tetrachloride as a base and other non-injurious Chemicals to preserve and Depress the Freezing point; Will not deteriorate with age, nor damage the most delicate Fabrics, Metals or Furniture; Is a non-conductor of electricity which makes it adaptable for extinguishing short circuits or other fires around electrical machinery; It is miscible with Oils and Gasoline and furnishes the best means of extinguishing these highly inflammable materials, because in the presence of heat it is converted into a heavy gas which blankets the flame

Each

No. 2—1 QUART; Height over all 13¾ in.; Diameter 2¾ in; Weight each about 4½ lbs.....$8.00 $12.00

No. 1—1 PINT; Height over all 10 in.; Diameter 2 in.; Weight each about 3½ lbs..... 6.00 9.00

One in a Fibre Box, with Instructions for using.

Glass Cylindrical Reservoir; Metal Ring and Sprayer; Automatic Valve, Sealed with Rose Metal, which Melts at a Temperature of 250 Degrees, which Automatically releases the Valve, forcing the Liquid under the Hood of an Automobile which in Connection with the Heat Generated by the Fire forms a Gas and Smothers the Flame by Cutting off the Oxygen. Can also be operated by a one-half Turn of Ring at Top, when used for Household or Store Protection.

Complete with Wrought Steel Bracket, Black Enameled Finish, with Ring at Bottom and Spring on Top for Holding Extinguisher Securely; Especially Constructed for Fastening to Dash Board under Hood of Engine, can also be used anywhere in Houses, Hotels, Garages, Etc. Permits Removal Easily; Height over all 12 in.

PYRENE.

Especially Constructed for use on Automobiles, but can be used in Garages, Hotels, Factories, etc.

APPROVED BY THE NATIONAL BOARD OF FIRE UNDERWRITERS.

The Liquid used in these Extinguishers is a Chemical Combination of purely organic materials, having an aromatic odor and a high Specific gravity, and as it touches the fire or heated parts, it is converted into a dense white gas blanket which surrounds the fire and smothers it instantly; Also the most effective in fires of highly inflammable material, such as oil and gasoline, is non-damaging, non-corrosive and will not freeze at 50 degrees Fahrenheit or below zero.

Each

No. P—PYRENE; Charged Ready for Use; Weight each about 6¾ lbs.....$16.50

One in a Cardboard Tube, with Directions for Using.

Entire Extinguisher made of Brass; Length over all 14 in.; Diameter 3 in.; Operated by turning Handle to Left and working like a Pump; Easily Refilled.

Complete with Wrought Steel Bracket, Black Enameled Finish; Especially Constructed for Fastening to Dashboard of Automobiles, or to Wall or Post in Garages, Hotels, etc.; Holds Extinguisher Securely, but permits Easy Removal; Height over all 14¾ in.

LIQUID PYRENE.

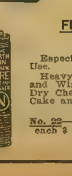
For Refilling Pyrene Fire Extinguishers.

Per Quart

No. PL—ONE QUART Screw Top Cans; Weight per can about 3¼ lbs...$1.50 $2.50

Packed Loose.

FIRE EXTINGUISHERS.



NORTHERN.

Especially Adapted for Garage, Shop and Store Use.

Heavy Gauge Tin Tube with Friction Cover and Wire Ring for Hanging; Is Filled with a Dry Chemical which will not Freeze, Corrode or Cake and will Extinguish any kind of Fire.

Each

No. 22—32 IN. LONG, 2 in. in Diameter; Weight each 3 lbs.; Weight per case about 170 lbs...$3.50

Fifty in a Case.

Steel, Welding

Andrews Steel Co., The, 9th & Lowell Sts., Newport, Ky. ..... **See Advt. Index, Page 7**
Beck & Corbitt Iron Co., 1232-1244 Main St., St. Louis, Mo. ..... **See Advt. Index, Page 7**
Bushnell, E. B., 85 Church St., New York. ..... **See Advt. Index, Page 7**
Connecticut Electric Steel Co., Inc., The, Hartford, Conn.
Edwards Mfg. Co., The, 432-482 Eggleston Ave., Cincinnati, O. ..... **See Page 7**
Carnegie Steel Co., Pittsburgh, Pa.
Davis-Bournonville Co., Jersey City, N. J
Indianapolis Switch & Frog Co., The, Springfield, O. ..... **See Advt. Index, Page 7**
Especially treated Steel for Electric Welding. Special Grades for specific purposes.
New York Iron & Steel Products Co., New York.
Steel Sales Corporation, 123 S. Jefferson St., Chicago. ..... **See Advt. Index, Page 7**
Transportation Engineering Corp., New York

Steels, Butchers'

American Cutlery Company, Chicago.
Brecht Butchers' Supply Co., G. V., St. Louis.
Chatillon & Sons, John, New York.
Landers, Frary & Clark, New Britain, Conn.
Nicholson File Co., Providence, R. I.
White Co., L. & I. J., Buffalo, N. Y.

Steels, for Toolholders

Apex Steel Corporation, 50 Church St., New York ..... **See Advt. Index, Page 7**
Atlas Crucible Steel Co., Dunkirk, N. Y
Carbon Steel Company, Pittsburgh, Pa.
Hammond Steel Company, Inc., The, Syracuse, N. Y.
New York Iron & Steel Products Co., New York.
Patriarche & Bell, New York.
Ryerson & Son, Jos. T., Chicago, New York, Buffalo, St. Louis, Detroit. ..... **See Page 7**
Western Tool & Mfg. Co., Springfield, O.
Williams & Co., J. H., 62 Richards St., Brooklyn, N. Y. (Cutter.) ..... **See Page 7**

Steering Gears, Marine See Gears, Marine Steering

Steering Wheels, Marine See Wheels, Steering, Marine

Stems, Valve

Gilbert & Sons Brass Fdry. Co., A., St. Louis, Mo.
Kelly & Jones Co., The, Greensburg, Pa.
Klipfel Mfg. Co., Chicago.
Vulcan Steam Forging Co., Buffalo, N. Y
Walworth Mfg. Co., Boston, Mass See Page 7
Williams & Co., J. H., 62 Richards St., Brooklyn, N. Y. (Drop Forged.) ..... **See Advt. Index, Page 7**
Williams, William E., New York.

Stencil Cutting Machines

Bradley Mfg. Co., A. J., 101 Beekman St., New York. ..... **See Advt. Index, Page 7**
Complete information relative to the Bradley Stencil Machine furnished on request. All orders promptly executed. Write for Catalogue and Prices.
Bradley Stencil Machine Co., 3749 Forest Park Blvd., St. Louis, Mo. ..... **See Page 7**
Manufacturers of Automatic Stencil Machines to be used for cutting cardboard stencils for marking shipments. We have been manufacturing Stencil Machines successfully for twenty five years, and many of the first machines turned out are still in active operation. Thirty thousand machines now in use. We have six hundred machines now in use by the Government in different departments. Standard or Horizontal Machine and Style "E" or Round Machine can be equipped with either ½ or ¾ inch letters. Cuts of these machines are illustrated in our advertisement. We also make a Giant machine which is equipped with 1¼-inch full Roman letters, as well as a machine known as Style "H" equipped with 1½-inch letters. Sent on trial—freight prepaid—with stencil paper, marking pot, brush, etc., everything complete for a thorough test. A practical demonstration will convince you that a Bradley Stencil Machine is the greatest labor saver for your shipping room—also is an insurance policy against lost or delayed shipments. A stencil can be cut in less than a minute, and as this will mark any number of packages, boxes, bales, etc., you can readily perceive what a saving it is over the old style of hand marking.
Diagraph Stencil Machine Corp., 1624 S. Kingshighway Blvd., St. Louis, Mo. ..... **See Advt. Index, Page 7**
For 20 years manufacturers of the DIAGRAPH Stencil Machine, built to last a business life time. Famous for its simplicity, speed and endurance. Made in largest range of models and sizes. Exporters prefer the Jumbo DIAGRAPH because it cuts 1¾ inch characters—much the largest cut by any other machine. Extensively used by U. S. and British Governments. You cannot name the leading shippers in any leading industry anywhere without naming owners of Diagraphs in quantities of from 1 to 100 or more. Ask us today to send you one prepaid and try it before you buy it.
Rapid Stencil Works, New York.

LASTS A BUSINESS LIFETIME

The DIAGRAPH Stencil Cutting Machine is mechanically strong, simple and easily operated—built to meet the speed and durability requirements of the world's largest shippers. Accomplishes a broader and more useful range of work because it embodies vital improvements not to be found in any other machine.

THREE MODELS AND SIZES

Made in three models, Housed, Open and Jumbo. Cuts letters ½ in., ⅞ in. and 1¾ in. high. Stencils cut from four to six lines deep, any length, in one operation. Stencil board feeds automatically—letters and punch guides are interchangeable, assuring perfect alignment.

SENT ON FREE TRIAL

You can prove that the DIAGRAPH will pay its way in your business. Ask us to send one on trial—we pay the freight—buy it if you like it—otherwise return at our expense.

DIAGRAPH Shipping Facts book sent on request.

Diagraph Stencil Machine Corp.

1624 S. Kingshighway Blvd. St. Louis, Mo.

Branch Offices in principal shipping centers
See Phone Books.

BRADLEY Stencil Cutting MACHINE

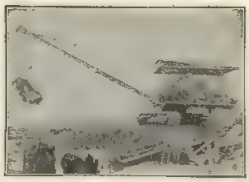
Style "H" Machine—1¼ inch Letters.

Standard or Horizontal Style ½" or ¾" letters. Cut shows machine without stand legs which go with it. "Giant" round stencil machine cuts 1¼" letters.

BRADLEY STENCIL MACHINE CO.

3749 Forest Park Boul. **ST. LOUIS, U. S. A.**

Five Machines with One Overhead



Displacing man-power in five directions is economically accomplished with the powerful.

AUSTIN HANDY 5-in-1

From Dragline to Crane, to Shovel, to Skimmer, to Wagon-Loader, to Clamshell—whatever the job, this machine will do it. No idle time to eat up the investment.

Catalog No. DL-84 (mailed on request) gives full particulars with specifications.

AUSTIN MACHINERY CORPORATION

General Offices: 609 Railway Exchange Bldg., Chicago

Cranes, Locomotive

American Bridge Company, New York
American Hoist & Derrick Co., St. Paul, Minn.
Austin Machinery Corporation, 609 Railway Exchange, Chicago — See Page 7
Beck & Babb, 29 S. La Salle St., Chicago — See Advt. Index, Page 7
Benjamin Equipment Co., Harry, 722-727 Central National Bank Bldg., St. Louis, Mo — See Advt. Index, Page 7
Brown Hoisting Machinery Co., The, 4403 St. Clair Ave., Cleveland, O. — See Page 7

Brownhoist Cranes are recognized as leaders because of their durability in hard service, 24 hours each day. Records show this. And because they can be used with grab bucket, lifting magnet, pile driver and hook, each change requiring only a short time. They are built for any gauge track; capacities, 5 to 40 tons.

Buffalo Hoist & Derrick Co., 129 Erie St., Buffalo, N. Y. — See Advt. Index, Page 7

Manufacturers of the famous "BUFFALO" All Steel Locomotive Crane, 4-4 Wheel, Full Revolving Crane, will handle 7½ tons at a radius of 22 ft. Designed to meet all requirements in a smaller type crane. Can be equipped with crane tackle, magnet or to handle two-line clam shell.

Byers Machine Co., The, 188 Sycamore St., Ravenna, O. — See Advt. Index, Page 7
Cleveland Railway Supply Co., The, 1106-1107 Swetland Bldg., Cleveland, O. — See Advt. Index, Page 7

UNIVERSAL CRANES are "Built for any mounting" which makes them exceptionally adaptable for handling different classes of material with grab bucket, or electric magnet or hoist block.

Dewey Supply Corporation, 18 W. 34th St., New York — See Advt. Index, Page 7
Equipment Corporation of America, 1415-1420 Lumber Exchange Bldg., Chicago.
Foxeter Machine Works, Inc., West Pittston, Pa.
Granger Co., A. D., 15 Park Row, New York — See Advt. Index, Page 7
Hanna Engineering Works, 1760 Elston Ave., Chicago — See Advt. Index, Page 7
Hubbard Floyd Co., Inc., The, 1112 Grand Central Palace, New York — See Page 7
Industrial Works, Bay City, Mich — See Page 7

Industrial Works Locomotive Cranes for over thirty years have been the standard crane on railroads because of their sturdy construction and their ease and speed of operation. Mechanically they have no equal. In capacities from 5 to 60 tons, operated by steam, electricity or gasoline, each one offers the maximum value for its cost. They are the fastest operating bucket cranes and are also adapted for use with a magnet, hook, pile driver leaders, steam shovel dipper arm or drag line attachment.

(Continued on following page)

—It Pays to Buy Brownhoist Cranes—

Locomotive Cranes

Brownhoist Locomotive Cranes are built for safety, speed, and durability. 22 years' records prove this. They are made in 3, 5, 10, 15, 20, 30, and 40-ton capacities, steam or electric. Equipped with different length booms. Can be worked with grab bucket, dragline bucket, bottom block, lifting magnet, or pile driver.

Pillar and Jib Cranes

Brownhoist Pillar and Jib Cranes are made in various types and capacities for either hand or electric operation. Can be built for various working radii. Can be erected either indoors or outside.

Overhead Traveling Cranes

Brownhoist Overhead Hand Traveling Cranes are of very simple construction. They are easily erected, easily operated and require very little head room. Can be equipped with hand, electric or air hoist. Built for various capacities and spans. Travels on I rail, I beam or channel track.

Buckets

Brownhoist Grab Buckets are of various types for handling coal, ore, cinders, stone, gravel, sand, coke, etc., and for excavating. Can be worked on various types of cranes and derricks. Brownhoist Dragline Buckets for large excavating work are considered the best haggers and records prove it.

Tramrail Systems

Brownhoist Tramrail Systems consist of hand or electric trolleys, I beam switches and turntables and all necessary track hangers and joints. We will erect these systems complete or will furnish the material with full instructions for erecting.

Cargo Handling Machinery

Brownhoist Cargo Handling Machinery consists of various types and sizes of cranes, hoists and trolleys. They are used on docks, in warehouses, freight houses, on loading platforms, etc.

Power House Equipment

Brownhoist Patented Concrete Bins and Coal Handling Machinery are used in power plants throughout the country. The bin takes up only the overhead space in your boiler room, and as no steel is left exposed it will last as long as your plant. Made in various sizes and with different style gates and spouts.

Brownhoist Products

Bridge tramways, fast plate, tank, ore, crane, gantry cranes, locomotive cranes, overhead handling gantry, work car cranes, jib cranes, pillar cranes, ladle cranes, monorail systems, tramrail systems, trolleys, cable ways, grab buckets, drag line buckets, tidal furnace hoists, coaling hoists, coke and ore dumping machines, storage bins, stripper hoists, transfer tables, water closet shields, and Ferroinclave, a combined reinforcement and centering for concrete roofs, sides, stairs, bins, floors, etc.

Catalogs of Separate Products Sent on Request

The Brown Hoisting Machinery Company

40 Years in Crane Business — **Cleveland, Ohio, U. S. A.**

Engineers and Manufacturers of Heavy Duty Machinery, Bridge Cranes, etc., as well as smaller cranes and hoists.

Branch Offices in New York, Pittsburgh, Chicago, San Francisco.

LINK-BELT
Locomotive Cranes

represent the highest degree of efficiency in design and mechanical construction known in the crane building art. They are provided for all classes of service with Grab-Bucket, Hook, Sling or Lifting Magnet.

Send for Catalog No. 370

LINK-BELT COMPANY

Offices in Principal Cities

PHILADELPHIA CHICAGO INDIANAPOLIS

NORTHWEST ENGINEERING WORKS

Northwest Crawler Cranes

28 E. Jackson Blvd. CHICAGO, ILL.

Kleinhans Company, H., Union Arcade, Pittsburgh, Pa. . . See Advt. Index, Page 7
Second-hand. For sale or rent
Link-Belt Co., Chicago and Philadelphia. . . . . . See Advt. Index, Page 7
The Link Belt Locomotive Crane is the last word in crane design. It has earned and enjoys reputation among engineers and users, on its actual daily performance. The construction is simple, with few parts, and every part accessible. Factors of safety used are higher than ordinary standard practice. Heat treated steel gears throughout, one point adjustment on all clutches, fool proof and easily adjusted. The Link Belt Slipping device is an exclusive feature on our crane. It materially increases the operating speed of the machine. Large roomy crane, everything handy and convenient for operator
Machinery Sales Co., 904-528 E. Dearborn St., Chicago . . . . . See Advt. Index, Page 7
Mid-Continent Equipment & Machinery Co., St. Louis, Mo
Northwest Engineering Works, 28 E. Jackson Blvd., Chicago. . See Adv. Index, Page 7
NORTHWEST Locomotive Cranes are mounted on manganese steel crawler type wheels, sheaved, driven, operated by one man from the rotating base, and travel in the same manner as the war tanks. They are equipped with grab bucket, lifting magnet, pile driver, wood grapple or drag line scraper bucket. They are also equipped with railroad track wheels
Orton & Steinbrenner Co., Chicago . . . . . Page 7
Scrupulous care to secure the very best material pendable Locomotive Cranes. 95% of castings are steel. Bronze bushed bearings, through bolts instead of studs, large single point adjustment frictions, steel drums, sheaves, hoist framing, slow speed large size gears, all nuts locked, accessibility, and easy operation are a few of their superior features
Osgood Company, The, Marion, O.
Pawling & Harnischfeger Co., Milwaukee, Wis . . . . . See Advt. Index, Page 7
Reading Engineering Co., Inc., 154 Nassau St., New York. See Advt. Index, Page 7
Shippers' Car Line, Inc., 165 Broadway, New York . . . . . See Advt. Index, Page 7
Thew Shovel Co., The, Lorain, O
United States Crane Co., Peoples Gas Bldg., Chicago.
Send for specifications. See a U. S. Crane in action. It will unload more cars of coal per hour than any other make of Crane.
Wilson & Company, E. H., Philadelphia, Pa
Woodward, Wight & Co., Ltd., New Orleans, La.
Zelnicker Supply Co., Walter A., St. Louis, Mo.

Cranes, Locomotive, Electric

Austin Machinery Corporation, 609 Railway Exchange, Chicago . . . . . See Page 7
Brown Hoisting Machinery Co., The, Cleveland, O.
Byers Machine Co., The, 188 Sycamore St., Ravenna, O. . . . . . See Advt. Index, Page 7
Hanna Engineering Works, 1760 Elston Ave., Chicago . . . . . See Advt. Index, Page 7
Industrial Works, Bay City, Mich See Page 7
Link-Belt Co., Chicago and Philadelphia. . . . . . See Advt. Index, Page 7
Northwest Engineering Works, 28 E. Jackson Blvd., Chicago See Advt. Index, Page 7
Orton & Steinbrenner Co., Chicago . See Page 7
United States Crane Co., Chicago.
Whiting Corporation, Harvey, Ill. . See Page 7

Cranes, Locomotive, Gasoline

Austin Machinery Corporation, 609 Railway Exchange, Chicago . . . . . See Page 7
Byers Machine Co., The, 188 Sycamore St., Ravenna, O. . . . . . See Advt. Index, Page 7
Hanna Engineering Works, 1760 Elston Ave., Chicago . . . . . See Advt. Index, Page 7
Industrial Works, Bay City, Mich. . See Page 7
Gasoline operated cranes are especially desirable for intermittent service. They are always ready for service without waiting to get up steam, and don't use any fuel when not actually working. The Industrial Works Coaling and Ash Handling Crane is designed for points where expensive installations would not be justified
Northwest Engineering Works, 28 E. Jackson Blvd., Chicago See Advt. Index, Page 7
United States Crane Co., Peoples Gas Bldg., Chicago.

Cranes, Mail See Cranes and Catchers, Mail

Cranes, Material Handling

Austin Machinery Corp., 609 Railway Exchange, Chicago . See Advt. Index, Page 7
Brown Hoisting Machinery Co., The, 4403 St. Clair Ave., Cleveland, O. . . See Page 7
Cleveland Crane & Engineering Co., Wickliffe, Ohio.
Granger Co., A. D., New York.
Hanna Engineering Works, Chicago.
Industrial Works, Bay City, Mich. . See Page 7
Link-Belt Co., Chicago & Philadelphia . . . . . See Advt. Index, Page 7
Marion Steam Shovel Co., The, Marion, Ohio.
Milwaukee Electric Crane & Mfg. Co., Inc., Milwaukee, Wis. . . See Advt. Index, Page 7

BUDA NO. 19 MOTOR SECTION CAR

SAFETY ALWAYS

All Buda Motor Cars are equipped with four cycle engines—the only type of engine allowing a control of speed ranging from 3 to a maximum of 20 miles per hour.

Two cycle engines can be run at only a full open-throttle-speed of 30 to 35 miles per hour.

When an employee is injured or loses his life from an accident caused by the excessive speed of a motor car, the loss is not alone one of injury or life, which is deplorable, but also the elimination of an efficient and experienced man from a railroad organization which affects materially its efficiency.

THE BUDA COMPANY

NEW YORK CHICAGO ST. LOUIS
LONDON PARIS BUENOS AIRES

HY-DUTY BUMPING BUDA ALL STEEL POSTS

THE END OF A PERFECT TRACK

No excavating or dead man is required to install a Buda Post, and it has the additional advantage of being built entirely of steel. Costs less at the outset and practically nothing to maintain. Has the great economy feature of being portable.

The construction of the Buda Post is such that it gives greater resistance, yet has just enough resilience. To install, it is necessary only to drill holes in the stock or running rails to correspond with those in the post-rail. Buda Posts may be easily moved from one location to another, as when used in connection with service tracks.

When you are in the market let us demonstrate the value of the Buda, the 100% better post by actual test.

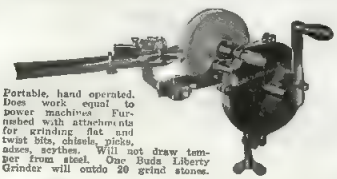
Other Buda Products are: Gasoline Motor Cars, Hand and Push Cars Motor Velocipedes, Buda Cone Bearing and Ball Bearing Jacks "Hyduty" Paulus Drills, Electric and Pneumatic Crossing Gates Electric Freight and Warehouse Trucks Manganese Steel Special Work

THE BUDA COMPANY
CHICAGO

NEW YORK CHICAGO ST. LOUIS
LONDON PARIS BUENOS AIRES

BUDA

Liberty Tool Grinders



Portable, hand operated. Does work equal to power machines. Furnished with attachments for grinding flat and twist bits, chisels, picks, adzes, scythes. Will not draw temper from steel. One Buda Liberty Grinder will outdo 20 grind stones.

The Only Attachment That Will CORRECTLY Grind a Tool

THE BUDA COMPANY

NEW YORK CHICAGO BUENOS AIRES
LONDON PARIS ST. LOUIS

Name registered in U. S. Patent Office Register No. 62144

BUDA

Hyduty Paulus Track Drill

Name "Paulus" can only be used by The Buda Company

The standard [illegible] drill equipped [illegible] Rail and Chuck can with [illegible] Hook Can be furnished with [illegible] for the A Rail. Either can be [illegible] with any of the following rail hooks:

Type B, single overcutch hook, which can be lengthened [illegible] drilling through rail and fish plate at the same time.

Type C is a double undercutch hook.

The type D, single overcutch hook is used for drilling girder or high T-rails, and I-beams.

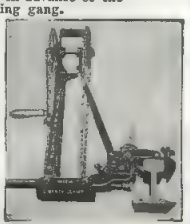
Every genuine "Hyduty Paulus" Track Drill will have the following name plate on it:

Buda-Wilson Bonding Drill With Liberty Clamp

Not necessary to wait for the rail to be laid. Do your bond drilling in advance of the track laying gang.

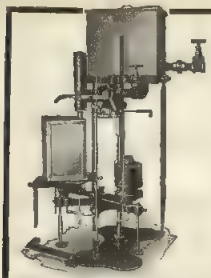
The Buda-Wilson drill supersedes the "Hyduty" Wilson and is great improvement over the standard Wilson drill.

The Buda-Wilson drill is equipped with the Liberty Clamp, which has no foot plate, but clamps rigidly to the rail and takes care of different sizes of rail heads. This adjustment of both hooks and clamps is arranged for by thumb screws.



THE BUDA COMPANY

New York Chicago St. Louis
London Paris Buenos Aires



Bruno Can Filling Machines will save you time, labor and material, and are guaranteed to fill any shape or size containers from ¼ pint to 5 gallons, accurate by weight, without afterflow, drip or soiling of labeled containers.

Patented Shut Off Mechanism is simple, foolproof and absolutely reliable.

No Leather or Rubber Packing, no electric batteries or dry cells to quickly deteriorate, no falling hammers or weights to stick and cause a spill and muss.

Only Three to Five Minutes time required to clean and change from one size container to another.

Operated by Foot or Hand Lever, no power or skilled labor required.

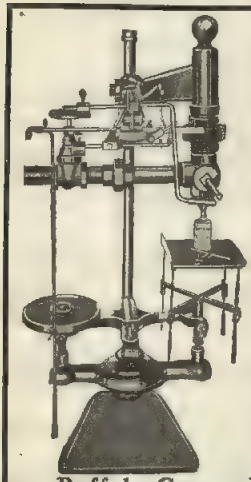
Handles Any Liquid that will flow by gravity.

Highly Recommended by many well know concerns.

Bruno Manufacturing Company

59-61 Terrace St. Buffalo, N. Y.

2147 Hudson Ave., Chicago — 913 Pulitzer Bldg., New York



Can and Bottle Filling Machinery

Net Weight Liquid Fillers

No Foam Fillers

Gross Weight Fillers

Multiple Measuring Fillers

Built Under F. B. Chambers Patents

We also build Special Machinery

Buffalo Can and Bottle Filling Machine Company

310 Terrace, Buffalo, N. Y.

F. B. Chambers, Sales Manager

Can Filling Machines

For 10 years **Crandall Can Fillers** have been sold on 30 days' trial. Thousands in use filling every kind of liquid canned.

SAVING IN PRODUCT more than labor cost of canning; and SAVING IN LABOR, 50 to 75%.

SHORT CANS IMPOSSIBLE.

Single Machines fill all size cans; 4 oz. to 5 gallons. Portable—No installation cost—Fool proof and almost indestructible.

MULTIPLE MACHINES with conveyor system—400 to 500 five-gallon cans per hour, with one operator.

SPECIAL MACHINES for Paint, Tomato Pulp, Olive Oil. Machines for every liquid product.

Prices: $100.00 to $800 00.

Let us help you solve your canning problems.

Crandall Can Filler Machine Co.

1396 Niagara Street — Buffalo, N. Y.

Machines, Can Filling

Bruno Manufacturing Company, 59-61 Terrace St., Buffalo, N. Y. (Automatic)
See Advt. Index Page 7

Buffalo Can & Bottle Filling Machine Co., 310 Terrace, Buffalo, N Y See Page 7

Ruffal Can and Bo tle ling Ma hines are de signed to meet ev ry req irements of gravity flowing liquids and will operate equally well on any trade that are now in use. We manufacture machines to meet any requirement or factory condition and our facilities are such that we can supply the largest manufacturing plant in the United States. Ordinarily does not require cleaning when changing from one liquid to another. In extreme cases when changing from dark to very light liquid, two to four minutes are required, including disconnecting from one tank and connecting to another. Twenty to thirty seconds required to change from one size contsumer to another.

Our No Spatter patented devise prevents all spatter, and our shut-off valve is absolutely clean. No drip or overflow, labeled containers are filled without being soiled.

Our No Foam patented device can be attached to all of our machines if desired. This device will prevent any foam, regardless of how strong a tendency the liquid may have.

Capacity is any size container from one eighth pint to five gallons. Special machines for larger containers.

Machines are built substantially of iron and hard metals, working parts are hardened steel, guaranteed against any mechanical defects.

Crandall Can Filler Machine Co., 1396 Niagara St., Buffalo, N. Y..... See Page 7

"Crandall Can Fillers have been sold on 30 days' trial. Thousands in use, filling every kind of liquid canned. Saving in product more than cost of canning; and saving in labor, 50 to 75%. Short cans impossible. Single Machines fill all size cans; 4 oz. to 5 gallons. Portable—No installation cost—Fool Proof and almost indestructible. Multiple Machines with conveyor system—400 to 500 five gallon cans per hour with one operator. Special Machines for Paint, Tomato Pulp, Olive Oil. Machines for every liquid product. Prices. $100.00 to $800.00. Let us help you to solve your canning problems"

Huntley Mfg. Co., Silver Creek, N. Y.

New Jersey Machine Corp., Hoboken, N. J.

Seattle-Astoria Iron Works, Inc., Seattle

Standard Automatic Machine Co., Rochester.

Machines, Can Making See Machinery, Can Making

Machines, Cancelling

American Perforator Co., Chicago.

Bendor, Ph J., New York

Columbia Postal Supply Co., Silver Creek, N. Y.

Ingersoll-Rand Co., 11 Broadway, New York.

.....**See Advt. Index, Page 7**

Machines, Carbonizing

Hunt Machine Co., Rodney, Orange, Mass.

Hunter Mach. Co., Jas. N. Adams, Mass.

Philadelphia Drying Mchy. Co., Philadelphia, Pa.

Sargent Sons Corp., C. G., Graniteville, Mass.

Textile Finishing Mchy. Co., Providence, R. I.

Machines, Carding

Smith & Furbush Machine Co., Philadelphia, Pa.

Machines, Carpet

Collins Bros. Mach. Co., Pawtucket, R. I.

Harwood & Son, Geo. S., Boston, Mass.

SEE ALSO MACHINERY, UNDER VARIOUS CLASSIFICATIONS

BYERS AUTO-CRANE AND REVOLVING TYPES CRANES

Put Your Loading Unloading and Digging up to BYERS CRANES

"AUTO-CRANE" (as illustrated) and Full Revolving Types. Clamshell, orange-peel or dragline bucket (⅜ to ⅞ yard, depending on material handled); magnet, hook, and other attachments. Run by steam, gasoline or electricity. Mounted on crawling trucks (as illustrated), broad-tire road wheels, or railroad wheels, any gauge. Write about your work—interesting bulletins and full particulars gladly sent.

THE BYERS MACHINE COMPANY
188 Sycamore Street Ravenna, Ohio
Builders of "Auto-Cranes" and Full Revolving Cranes; Steam, Gasoline and Belt Hoists, etc.
Sales Agents Everywhere.

Self-Oiling Enclosed Gears

THE MILWAUKEE CRANE

Closed End Bushings

The choice of the most conservative and progressive manufacturers in every section—a few of the many—

NORTH
Ford Motor Co., Detroit, Mich.
General Motors Corp., Detroit, Mich.
Farrell Cheek Steel Fdy. Co., Sandusky, O.
Duluth Street Railway Co., Duluth, Minn.

WEST
Des Moines Fdy. & Mch. Co., Iowa
Standard Steel Car Co., Hammond, Ind.
Gen. Am. Tank Car Corp., Chicago, Ill.
Continental Portland Cement Co., St. Louis, Mo.

EAST
General Electric Co., West Lynn, Mass.
Westinghouse Electric & Mfg. Co., Pittsburgh, Pa
Staten Island Shipbuilding Co., Port Richmond, N. Y.
U. S. Gov't Navy Yards, Washington, D. C.

SOUTH
Pensacola Shipbuilding Co., Florida
Birmingham Mch. & Fdy. Co., Alabama
Mobile Shipbuilding Co., Alabama
Terry Shipbuilding Co., Savannah, Ga.

This partial list of users will give you some idea of the diversified use and distribution of the Milwaukee Crane. Send for catalog before you choose your next cranes.

DIRECT FACTORY REPRESENTATIVES
New York Portland, Ore. San Francisco Birmingham
Chicago Detroit Denver Houston
Pittsburgh Los Angeles St. Louis

MILWAUKEE
ELECTRIC CRANE & MFG. CO. INC.
MILWAUKEE-WIS-U-S-A

Cranes, Electric
Niles-Bement-Pond Co., New York.
Northern Engineering Works, Detroit, Mich.
Reading Chain & Block Corp., Reading, Pa. ..... See Advt. Index, Page 7
Wright, David A., Jefferson St., & Washington Blvd., Chicago.....See Page 7

Cranes, Floating
Brown Hoisting Machy. Co., The, Cleveland, O.
Bucyrus Co., South Milwaukee, Wis.
Hayward Co., New York.
Thomas Elevator Co., Chicago.
Wellman-Seaver-Morgan Co., Cleveland, O.
Woodward, Wight & Co., Ltd., New Orleans, La.

Cranes, Forge
Alliance Machine Co., Alliance, O.
Brown Hoisting Machy. Co., The, Cleveland, O.
Milwaukee Electric Crane & Mfg. Co., Inc., Milwaukee, Wis..See Advt. Index, Page 7
Toledo Crane Co., The, Bucyrus, O.See Page 7

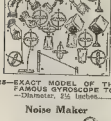
Cranes, Foundry See Cranes, Charging and Drawing

Cranes, Freight Handling
American Hoist & Derrick Co., St. Paul, Minn.
Beck & Corbitt Iron Co., 1932-1244 Main St., St. Louis, Mo . See Advt. Index, Page 7
Brown Hoisting Machinery Co., The, 4403 St. Clair Ave., Cleveland, O....See Page 7
Different types of Brownhoist machines are used for handling freight in various parts of the world. Our experience enables us to give expert advice as to the best equipment to use for certain conditions.
Byers Machine Co., The, 188 Sycamore St., Ravenna, O.....See Advt. Index, Page 7
Champion Engineering Co., The, Kenton, O.
Detroit Hoist & Machine Co., Detroit, Mich.
Dewey Supply Corporation, 18 W. 34th St., New York .....See Advt. Index, Page 7
Hanna Engineering Works, 1760 Elston Ave., Chicago. .See Advt. Index, Page 7
Industrial Works, Bay City, Mich. .See Page 7
Lakeside Bridge & Steel Co., 401 Villard Ave., North Milwaukee, Wis. .See Page 7
Link-Belt Co., Chicago and Philadelphia.
Northern Engineering Works, Detroit, Mich.
Northwest Engineering Works, Chicago.
Orton & Steinbrenner Co., Chicago.
Syerson & Son, Jos. T., Chicago, New York, Buffalo, St. Louis, Detroit..... See Advt. Index, Page 7
Scully-Jones & Co., 224 S. Michigan Ave., Chicago . See Advt. Index, Page 7
Shepard Electric Crane & Hoist Co., Montour Falls, N. Y. .....Page 3
Speidel, J. G., Reading, Pa. ..... See Page 7
Toledo Crane Co., The, Bucyrus, O See Page 7
United States Crane Company, Chicago.
Whiting Corporation, Harvey, Ill.
Woodward, Wight & Co., Ltd., New Orleans, La.

Cranes, Full Circle
Brown Hoisting Machinery Co., The, 4403 St. Clair Ave., Cleveland, O....See Page 7
Dewey Supply Corporation, 18 W. 34th St., New York..... See Advt. Index, Page 7
Hanna Engineering Works, Chicago.
Industrial Works, Bay City, Mich. .See Page 7
Marion Steam Shovel Co., The, Marion, Ohio.
Nor.Lyer Engineering Wks., Chicago.
Terry Mfg. Co., Inc., Grand Central Terminal, New York.....See Advt. Index, Page 7

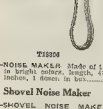
Cranes, Gantry
Alliance Machine Co., Alliance, O.
Brown Hoisting Machy. Co., The, Cleveland, O.
Canadian Steel-Morrison Co., Ltd., Montreal and Welland, Can.
Champion Engineering Co., The, Kenton, O.
Cleveland Crane & Engineering Co., Wickliffe, Ohio.
Clyde Iron Works, Duluth, Minn.
Dewey Supply Corporation, 18 W. 34th St., New York .....See Advt. Index, Page 7
Dunkle Co., Arthur J., New York.
Granger Co., A. D., New York.
Industrial Works, Bay City, Mich.
Lakeside Bridge & Steel Co., 401 Villard Ave., North Milwaukee, Wis See Page 7
Link-Belt Co., Chicago and Philadelphia ....See Advt. Index, Page 7
Llewellyn Iron Works, Los Angeles, Cal.
Milwaukee Electric Crane & Mfg. Co., Inc., Milwaukee, Wis..See Advt. Index, Page 7
Morgan Engineering Co., Alliance, O.
Niles-Bement-Pond Co., New York.
Northern Engineering Works, Detroit, Mich.
Orton & Steinbrenner Co., Chicago.
Pawling & Harnischfeger Co., Milwaukee, Wis ..... See Advt. Index, Page 7
Penn Bridge Co., Beaver Falls, Pa.
Scully-Jones & Co., 224 S. Michigan Ave., Chicago See Advt. Index, Page 7
Toledo Crane Co., The, Bucyrus, O See Page 7
United States Crane Company, Chicago.
Whiting Corporation, Harvey, Ill .See Page 7

Gyroscope Top



T17928—EXACT MODEL OF THE FAMOUS GYROSCOPE TOP—Diameter, 2½ inches..... Per doz. 2.00

Noise Maker



T8306

T 8306—NOISE MAKER—Made of tin in bright colors, length, 4½ inches, 1 dozen in box..... Per doz. .75

Shovel Noise Maker

T8278—SHOVEL NOISE MAKER RATTLE—Made of strong metal with knob on each side, 1 dozen in box, not broken ..... Per doz. .75

Frying Pan Noise Maker

T8290—FRYING PAN NOISE MAKER RATTLE—Made of strong metal, with knob on each side; length, 11 inches; width, 5¾ inches, 1 dozen in box ..... Per doz. 1.08

Crickets

T 8303—CRICKET—Double noise maker; made of wood; length, 8½ inches; width, 3 inches ..... Per doz. 1.92

T18063—IMPROVED ROOTER AND AUTO HORN—Made of metal, with crank; length, 7¾ inches; diameter, 2¼ inches, 1 dozen in box, not broken ..... Per doz. 1.00

Giant Paper Exploder

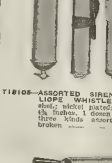
T18112—GIANT PAPER EXPLODER—Made of tin; length, 9½ inches, 2 dozen in box..... Per doz. 1.47

Cow Bell

T17901—COW BELL—Made of tin, brass, copper finish, with handle; height, 5¾ inches; width, 2 inches, 1 dozen in box ..... Per doz. 2.16

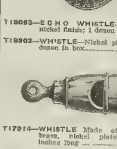
Calliope Whistle

T18305—CALLIOPE WHISTLE—Made of metal, with wood handle; stem length, 7 inches, 1 dozen in box..... Per gro. 9.00



T18108—ASSORTED SIREN CALLIOPE WHISTLES—Brass shell; nickel plated; length, 4¾ inches, 1 dozen in box; three kinds assorted, not broken ..... Per doz. .80

T18098—DUPLEX WHISTLE—Nickel plated; 3 dozen in box, not broken ..... Per doz. 1.20



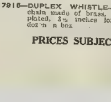
T18093—ECHO WHISTLE—Bright nickel finish; 1 dozen in box. 1.08

T18302—WHISTLE—Nickel plated; 1 dozen in box..... .75

T17914—WHISTLE Made of solid brass, nickel plated, 3¾ inches long ..... Per doz. 1.95

Conductor's Whistle

T18094—UNIVERSAL CONDUCTOR'S WHISTLE—Brightly nickeled, 3 dozen in box..... Per doz. 2.16



T17916—DUPLEX WHISTLE—With chain made of brass, nickel plated, 2½ inches long; 1 doz in a box ..... Per doz. 2.50

Police Whistle

T17913—WHISTLE— Police approved pattern, by police or military sounds; heavy solid brass nickel plated..... Per doz. 3.00

Flute

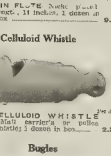
T17915—WHISTLE—Police whistle, made of brass, nickel plated, 3 inches long ..... Per doz. 2.16

T8307—PAINTED TIN FLUTE—With 2 reed mouthpiece, length, 8 inches, 2 dozen in box ..... Per gro. 4.50

T8306—PAINTED TIN FLUTE—With 2 reed mouthpiece, length 10 inches, 2 dozen in box 6.80

T8309—TIN FLUTE—Nickel plated, length, 11 inches; 1 dozen in box 9.00

Celluloid Whistle



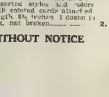
T17912—CELLULOID WHISTLE—Mail carrier's or police whistle; 1 dozen in box..... Per doz. 2.25

Bugles

T18084—BOY SCOUT BUGLE—Made of brass with 3-inch slide mouthpiece; length, 10 inches ..... Each 2.00

T18085—BOY SCOUT BUGLE—Made of brass with detachable mouthpiece; length, 12 inches ..... Each 2.25

Celluloid Toy Trumpets



T17696—CELLULOID TRUMPET—Genuine stylish band colors with colored cords attached; length, 8½ inches; 1 dozen in box, not broken..... Per doz. 2.16

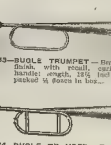
Celluloid Trumpets—Continued

T17699—CELLULOID TRUMPETS Assorted styles and colors, with colored cord attached, length, 8½ inches, 1 dozen in box, not broken..... Per doz. 4.25

Metal Trumpets

T17981—BUGLE TRUMPET Brass finish curled handle; 8 inches long; packed 1 dozen in box 1.85

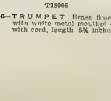
T17980—BUGLE TRUMPETS—Curled handle, 7 inches long, put up 2 dozen in box ..... Per doz. .95



T18289—BUGLE TRUMPET Brass finish with pearl; curled handle, 9 inches long; packed 1 dozen in box..... Per doz. 2.00

T17952—BUGLE TRUMPET Brass finish with pearl, curled handle; length 11 inches; packed 1 dozen in box ..... Per doz. 2.60

T17953—BUGLE TRUMPET—Brass finish with pearl; curled handle; length, 12½ inches; packed ¼ dozen in box..... 3.75



T17954—BUGLE TRUMPET Brass finish with pearl; curled handle; length, 14½ inches, packed ¼ dozen in box..... Per doz. 4.60

Nos. T17955-56-57-58

T17955—TRUMPET Single reed metal mouthpiece with handle, length 6 inches, packed 3 dozen in box ..... Per doz. .72

T17956—TRUMPET—Single reed, metal mouthpiece, with handle, finished in green, length, 8 inches; packed 3 dozen in box 1.25

T17957—TRUMPET—Single reed metal mouthpiece with handle, finished in assorted colors, length, 8 inches; packed 3 dozen assorted in box..... 1.75

T17958—TRUMPET - Musical single reed, metal mouthpiece, with handle, finished in assorted colors; length, 14 inches, packed 3 dozen assorted in box 3.00

T18966

T18966—TRUMPET Brass finish with white metal mouthpiece, with cord, length 5¾ inches Per doz. 4.10

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Miscellaneous Toys

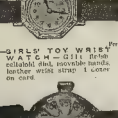
Toy Watches

T18175—BOYS' TOY WATCH—Embossed front, paper dial and alarm with ornament; 4 dozen on card.. Per gro. 5.04

T17924—TOY WRIST WATCH in assorted colors, celluloid cases with straps; 3 dozen on card ..... Per gro. 5.04

T18174—GIRLS' TOY WRIST WATCH—Gilt finish celluloid dial, movable hands, leather wrist strap; 1 dozen on card ..... Per doz. .97

T18173—BOYS' TOY WRIST WATCH—Nickeled, protected face, celluloid crystal, khaki web strap, and nickel buckle; 1 dozen on card..... 4.68



T18177—BOYS' TOY WATCH AND CHAIN—Gilt case, embossed front, celluloid face with printed hands and figures, gilt chain and bar; 1 dozen on card ..... Per gro. 9.20

T18178—TOY WRIST WATCH—Silk link expansible bracket, embossed front domed back, celluloid crystal; each on decorated display card. ..... Per doz. 1.95

T18176—TOY WATCH—Gilt case, celluloid crystal, embossed front and back, and luster chain, 1 dozen on display card ..... Per doz. 2.20

T17961—TOY WATCH—Nickel plated front and sides, lithographed back, glass front, stem wind and long jeweled neck chain, each in box..... Per doz. 1.92

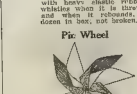
Multiscope

T18016—MULTISCOPE—Covered with attractive colored cloth paper 8 inches long and 2 inches in diameter. Operated by two end slides, the contents may be changed at will and by slightly turning, a most amazing variety of fantastic designs are produced each in box. ..... Per doz. 9.00

Musical Return Ball

T18260—MUSICAL RETURN BALL—Two inches in diameter with heavy elastic rubber cords; when it is thrown and when it rebounds, 1 dozen in box; not broken.... Per doz. .75

Pin Wheel



T18352—WIND ROSE—Assorted colors, pin wheel on wood stick; 5 dozen in box; not broken ..... Per doz. .80

Moviescope

T17882—MOVIESCOPE—A daylight viewing picture machine. Cardboard box containing reel of pictures which throws on mirror, producing moving pictures; length 6½ inches... Per doz. 1.92

Soap Bubble Outfits

T1923 Per Gro.

T17928—WIZARD BUBBLE BLOWER—Made entirely of wood; bowl finished in fine enamel and stem dyed; a jet black enamel shows miniature bubbles, small bubbles each in box, 4 dozen boxes in case ..... Per Gro. 7.5

T17958—BUBBLES—Without equals, the pipe and 6 tablets, each of which will make over 500 bubbles... Per doz. .80

T17905 T17956

T17956—BUBBLE OUTFIT—With 2 pipes and 7 tablets each of which will make over 500 bubbles, packed in fine blue grained top box size 4¾ x 2¾ inches ..... Per doz. 2.20

Fish in Bowl

T18064—SPIRAL FISH IN BOWL—Which rotates around spiral wo v e n wire. Length 12 inches; 1 dozen in box; not broken ..... Per doz. .80

Mexican Jumpers

T18304—MEXICAN JUMPERS—Cylinder engaging with moving weight on it, 1 gross in package ..... Per gro. .75

Whips

T18085—TOY WHIP—Average length 24 inches, 1 dozen in package ..... Per doz. .40

Acrobats

T17988 T17988

T17903—ACROBAT TOY—Wood handle with cord attached to figure which will perform acrobatic stunts. Length 6 inches; painted in bright colors, 2 dozen in box ..... Per gro. 4.04

T17903—DOUBLE ACROBAT TOY—Same as T17903 with two acrobats ..... Per doz. .84

Please Order by Number

Old Glory Top

T18269—"OLD GLORY"—Automatic spring winder, hard wood polished metal point height 2¼ inches, ¾ gross in package ..... Per doz. .97

T18320—AUTOMATIC SPRING WINDING TOP—All metal Lithographed in colors; height, including spinner, 4½ inches, diameter 2⅝ inches 1 dozen in 6 box; not broken ..... Per doz. 1.80

T18270—NEVER STOP HUMMING TOP—All metal top 10 inches in circumference, 1 dozen in box, not broken Per doz. 1.57

T18271—RAINBOW HUMMING TOP—Made of metal five colored discs furnished with cord which shows beautiful colors when spinning; 1 dozen in box, not broken..... Per doz. 1.92

T18272 EGYPTIAN DANCING TOP—All metal with musical chorus, resus and dance a spring, circumference 14 inches, ½ dozen in box. Per doz. 4.00

T18126 T18127

T18126—TIN TOP—Lithographed in red, white and blue, diameter 2¼ inches; with metal spinner; 1 dozen in box..... Per doz. .95

T18127—TOP—Made of metal, lithographed in red, white and blue, with green bottom; 1 dozen in box, not broken... 1.44

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

STAPLE DOLLS

AMERICAN MADE AND IMPORTED

A complete showing including American made composition, terry cloth and celluloid dolls also many imported bisque, celluloid and china dolls. These numbers sell well the year-'round because of their low prices and small sizes. With small investment you can have a good showing and do a profit-paying business.

POPULAR PRICED DOLL ASSORTMENTS

Two models, molded composition heads, painted features, well stuffed bodies, hip and shoulder joints.

F7209—2 styles, 18½ in. composition heads, painted features, well stuffed bodies, hip and shoulder joints. Dressed in percale skirts and crepe white blouses, shoes and socks. Dz. $4.00

F7208—3 styles, 14 in. composition heads, combination novelty & stripe dress and apron, percale dresses, lace trim yoke and belt, jointed necks and limbs, shoes and socks. ½ doz. in box. Doz. $4.00

F7211—3 styles 13½ in. full composition arms, flowered lace trim, with slip of ruffled lace, 1 with white apron, 1 with colored apron, matching ribbon sash, shoes and feet. Assrd. 1 doz. in box. Doz. $4.00

TURNING HEAD CHINA LIMB DOLLS

F6705-17 F6705-19

Turning china head and breast plate, china forearms and legs, cambric stuffed body, red muslin body, painted features, hair and footwear. Sold exclusively by us.

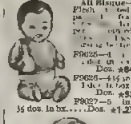
Regulation Head—

	Size	In box	Doz.
F6705—	8½ in.	1 doz.	$1.25
F6706—	10½ "	1 "	$2.25
F6707—	12½ "	½ "	$3.25
F6708—	14½ "	½ "	$3.75

Character Head—Moveable expression

	Size	In box	Doz.
F6705—	8½ in.	1 doz.	$6.00
F6706—	10½ "	1 "	$12.25
F6707—	12½ "	½ "	$23.25
F6708—	14½ "	½ "	$33.25
F6709—	16½ "	½ "	$43.75

IMPORTED BABY DOLLS



All Bisque—Flesh tinted pink, jointed neck, arms and legs. Dressed in fancy lace trimmed slip.

F9625—4 in. 1 doz. in box. Doz. $.84

F9626—4½ in. 1 doz. in box. Doz. $1.32

F9627—5 in. ½ doz. in box. Doz. $1.23

Composition Body—6 in. composition body, bisque head, jointed arms and legs, sockets head painted hair and features, trimmed slip.

F9628—1 doz. in box. Doz. $1.25

IMPORTED "BABY BUD" BISQUE DOLLS

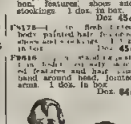
Fine flesh tinted bisque, painted features, roguish eyes, exposed tongue, short skirt, moveable position arms which give different expressions as each pose, each in box.

F9506—4 in. 1 doz. in pkg. Doz. $1.10

F9507—5½ in. ½ doz. in pkg. Doz. $1.68

F9508—6½ in. ½ doz. in pkg. Doz. $3.00

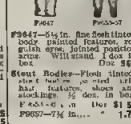
IMPORTED JOINTED BISQUE DOLLS



F9643—4½ in., flesh tinted body, painted hair and ribbon, features, shoes and stockings. 1 doz. in box. Doz. 45c

F9478—4 in. flesh tinted body painted hair features, shoes and stockings. 1 doz. in box. Doz. 45c

F9616—4 in. standing jointed doll, flesh tinted body and head features and hair, one hand around head, jointed arms. 1 doz. in box. Doz. 84c



F9647 F9535-37

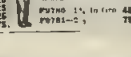
F9647—5½ in. fine flesh tinted body painted features, roguish eyes, jointed position arms. Will stand. 1 doz. in box. Doz. 96c

Stout Bodies—Flesh tinted, stout bodies, painted features, hair and shoes and stockings. ½ doz. in box.

F9535-6 in. Doz. $1.50

F9537—7½ in.... " 1.75

IMPORTED SOLID CHINA DOLLS



White china body, painted features, blonde and brunette hair. Sets in box.

F9780 1½ in. to 4½ in. 48c

F9781—2 " 75c

IMPORTED JOINTED CHINA DOLLS

F9788 F9649

F9788—8¼ in., white china painted features, hair and shoes, jointed arms and legs. 2 doz. in box. Doz. 33c (Total 1000)

F9649—4½ in., flesh color china, moulded wig, painted features, shoes and stockings, jointed arms and legs. 1 doz. in box. Doz. 60c

TERRY CLOTH DOLLS

Practically indestructible. Will stand all year trade. Especially adapted for young babies, tortoise toweling bodies stuffed with "kapok," assorted boys and girls, ribbon collars.

F7856-17 F7856-9

Button Eyes—Stitched mouth and nose.

F7856-8 in. Assrd. 1 doz. in box. Doz. $4.25

F7857 — 10 in. Assrd. ½ doz. in box. Doz. $6.75

Painted Eyes—Hand painted eyes and features ribbon at neck.

F7855-9 in. Assrd. 1 doz. in box. Doz. $4.25

F7856-10 in. Assrd. ½ doz. in box. Doz. $6.75

"WINKIE" DOLL

A new novelty who moves vampish expression brings quick sales

F7850—6 in., modeled composition bodies, flesh tinted bisque finish, painted features and hair, slippers and socks, fitted negligee, "winkie" eye. ½ doz. in box. Doz. $8.00

IMPORTED CELLULOID DOLLS

F9445 F9440-41

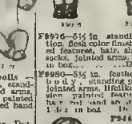
F9445—12 styles, 7 in. flesh tinted, well fitted features, dressed. ½ doz. in box. (Total 72) Doz. 36c

Jointed Arms—Standing position, painted features and hair.

F9440—6 in. 1 doz. in box. Doz. 72c

F9441—8½ in. 1 doz. in box. Doz. $1.30

F9442—3 styles, 6½ inch, 2 assrd. bright colors jointed arms painted features and hair, standing position. Assrd. 1 doz. in box. Doz. 75c



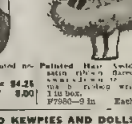
F9430-49 F9431-7

Red Hand Baby Dolls — Featherweight body, sanded toe position, jointed arms, lifelike expression, painted features and hair, red hand around head.

	In box	Doz.
F9431—11½ in.	1 doz.	$4.80
F9432— 13 "	1 "	7.68
F9433— 15 "	1 "	11.20
F9434— 17 "	½ "	11.20
F9435— 19 "	½ "	12.25
F9437— 23 "	½ "	23.50
F9440—28 "	½ "	42.50

Jointed Arms and Legs Painted features and hair 1 doz. in box.

	Doz.
F9430—7 in.	$.75
F9431—11 "	.49
F9433—15 "	1.60



F9390 F9977

F9390—6 styles, 3½ in., painted features, hair, caps and head. Assrd. 8 doz. in box. (Total $4.50) Doz. 75c

F9977—6 in. painted features and 1 pc bathing suit, assrd. colored socks, black shoes, jointed arms. Assrd. 1 doz. in box. Doz. $1.10

F9976 F9980

F9976—5½ in. standing position, flesh color finish, painted features, hair, shoes and socks, jointed arms. 1 doz. in box. Doz. 96c

F9980—5½ in. featherweight body, standing position, jointed arms, lifelike expression, painted features and hair, red hand around head. 1 doz. in box. Doz. $1.50

F9444-6 F9444-7

F9444—6½ in. flesh tinted body with moveable painted head and features, jointed arms and legs, painted green shoes and socks. 1 doz. in box. Doz. $2.75

F9446 3 styles, 8½ in. celluloid head, jointed dressed 1 doz. in box. Doz. $1.10

IMPORTED BABY DOLLS IN BATH TUBS

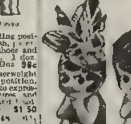
1¾ in., sitting detachable baby painted hair and features, white china 5¾ in. tub, heavy rim. 1 doz. in box.

F9786—Bisque doll. Doz. 75c

F9787—China " " 84c

"SPLASH ME" DOLLS

Gene George's clever conception. Flesh tinted bisque finished composition jointed painted features tinted bathing suit, a set above.



F9444

Painted Hair—½ doz. in box

F7044—5 in. assrd. knock-ed ons. Doz. $4.25

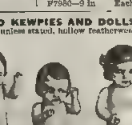
F7461-7 in. paint caffeine knockout caps. Doz. $9.00

Mohair Wig—Fashionable veil covered coiffure.

F7218 in. 1 doz. in box. Doz. $12.00

"YISS ME" DOLLS

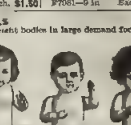
Creation of Hy Mayer. Modeled composition legs, flesh tinted shoes. Brush painted features.



Painted Hair Tinted negligee. ½ doz. in box.

F7045—7 in. Doz. $4.25

F7046-7 " " " 8.00



Painted Hair Assrd. satin ribbon flared skirt. Assrd. 1 doz. in box.

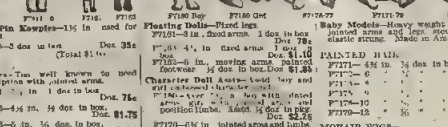
F7980—9 in. Each, $1.50

Mohair Wig Assrd. color braid trimmed, jointed arms, slip and panties. Assrd. 1 doz. in box wristbands. 1 in box.

F7061—9 in. Each, $1.76

CELLULOID KEWPIES AND DOLLS

Heavy celluloid bodies, painted features and hair unless stated, hollow featherweight bodies in large demand for dressing carriage trim and babies' baths.



F 50 F711 6 F716 F713

Lapel Pin Kewpies—1½ in. used for favors.

F7150—3 doz. in box. Doz. 35c (Total $1.05)

Kewpies—Two well known to need description with jointed arms.

F7811 2½ in. 1 doz. in box. Doz. 75c

F7813—4½ in. ½ doz. in box. Doz. $1.75

F7835—6 in. ½ doz. in box. Doz. $2.76

F7810—7½ in. 1 doz. in box. Doz. $7.00

F7180 Boy F7180 Girl F7178-77 F7171-79 F 50-7

Floating Dolls—Fixed arms.

F7151—3 in. fixed arms. 1 doz. in box. Doz. 78c

F7152—4½ in. fixed arms. 1 doz. Doz. $1.10

F7182—6 in., moving arms, painted footwear. ½ doz. in box. Doz. $1.88

Character Doll Assrted. bald boy and girl, painted features.

F7180—5½ in. boy with dotted arms, girl with jointed arms, one position limbs. Assrd. ½ doz. in pkg. Doz. $2.75

F7179—6½ in. jointed arms and limbs. Assrd. ½ doz. in box. Doz. $4.75

F7178—8½ in. jointed arms and limbs. Assrd. 1 doz. in box. Doz. $9.00

Baby Models—Heavy weight celluloid, jointed arms and legs, stout bodies, elastic strung. Made in America.

		Doz.
PAINTED HAIR		
F7171—	4½ in. ½ doz. in box	$1.90
F7172—	6 " " "	3.75
F7173—	8 " " "	7.25
F7175—	10 " " "	8.00
F7176—	10 " " "	12.50
F7179—	12 " ½ "	15.00
MOHAIR WIGS—		
F7185—	5½ in. ½ doz. in box	$3.75
F7186—	8 " " "	8.00

POPULAR GAMES

Well Known games that always sell big if given display. They are very well made of the best of materials. A representative showing will pay you good profits. Compare our prices with others and you will see why it pays to buy here

AUTHORS

F1870—21 cards, well known authors in colors, box 4x5 in. 1 doz. in pkg. . . Doz. 80c

F1871—36 card quality cards, paper backs, fine photo 3½x4½ in. either one 1 doz. in pkg. Doz $1.25

"TIDDLEDY WINKS"

F1812 — Fancy turned wood cup, 2 large and 6 small assd. winks, 6½x4½ box, tray. 1 doz. in pkg. Doz. 75c

F1813—Cup with 1 large and 2 extra assd. in one box winks. 1 doz. in pkg. Doz $1.40

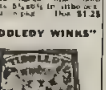
F1813—Glass cup, 4 large and 18 small winks, 4 green felt pads, 9½x9½ partitioned box. ½ doz. in pkg. Doz $2.00

"LOONY" GAME

F1848. All steel, set up 10x10 in., green litho sliding cap, heavy steel supports, green back with text in. 1 to 4 player pieces slides under screen, trying to draw out lines, write name, etc. by following reflection in mirror, amusing and laughable results. Complete with illustrated sheets, "Loony" autograph, cartoons, etc. each set in cardboard box 8x8x2 in. 1 doz. in pkg. . . . . Doz. $8.00

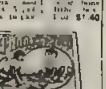
"OLD MAID" CARD GAMES

F1865—29 colored cards, interesting pictures, box 3½x5½ in. 1 doz. in pkg. Doz. 80c



F1867—36 good quality comic picture cards, yellow backs, box 3½x5½. 1 doz. in box Doz. $1.25

STEAMER QUOITS



F2000—6 in. cedar base, 4 in. tapered top, green stained post, 3 white rope rings with large stained grip, each set in box. 1 doz. set in pkg. Doz., sets, $2.00

CUT-OUT STAPLE GAME ASSORTMENT

F1900—assorted in box, 36 cards in 6 different sets and 36 different sheets and blocks for cutting out. Each set has a different game as follows: Authors, Animals, Flags, Checkers, Dominoes, Old Maid. Each set in separate envelope. Complete with checker board with checkers printable for a player sheet. If mounted on cardboard will last indefinitely. Assd. 1 doz. in pkg. . . . . Gro. $2

WOOD DOMINOES

All full size. Each set in box.

Indian Head, double six, red and white enamel spots, polished ebony finish, white dots. Indian Head on back. F1785 Doz. sets in pkg. Doz. sets Ivory Dot

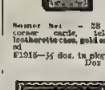
Black Wood, double six, polished ebony finish, white enameled dots, embossed sides and "Bum Dee" backs. F1788—6 doz. sets in pkg. Doz. sets $1.50

POPULAR CARD GAMES

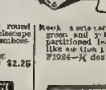
Heavy enamel finish cards, fancy backs. Each set in attractive box. Full directions.

Scenic Set — 28 round corner cards, telescope in character, gold embossed. F1815—½ doz. in pkg. Doz $2.25

Rook. 4 sets cards red, black, green and yellow, separate partitioned leatherette box like satin. Litho title. F1924—½ doz. in pkg. Doz $5.75



"Rummme" 52 guaranteed cards, partitioned litho box. Played by 2 or more. 15 games, 4 sets. Doz. F1916—½ doz. in pkg $4.25



"PIT" — Based on exciting scenes in Stock Exchange, partitioned leatherette box played by 3 or more. F1923—½ doz. in pkg. Doz $5.75

F1917 Game of flags, very popular. 52 assorted round cedar high grade stock cards, fancy backs, with red and white edges. ½ doz. sets in box $4.50

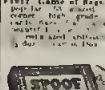
"Flinch" — 150 numbered cards, heavy enameled finish, fancy backs, each set in attractive box, full directions F1927—½ doz. in pkg. Doz. $5.75

Spoof. 52 glazed cards, fancy backs, 5 turned wood table sticks 5½x2½ in., leatherette covered litho box, rest high grade in pkg. Doz. $4.50

DONKEY PARTY GAME

F1943—22x30 stiff paper sheet, bright litho donkey, 24 numbered tails. 1 doz. in pkg. Doz. $1.25

GILBERT TRICK PUZZLE

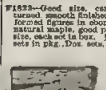


F2338—(Mfrs. 1020). 3 Interesting puzzles in box, metal rings, hooks, question, coupling rings, 3 rings, etc., box 7½x5. ½ doz. in pkg. Doz. $1.75

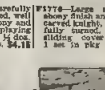
CHESS MEN

F1822—Good size, carefully turned smooth finished, well formed figures in ebony and natural maple, good playing size, each set in box. ½ doz. sets in pkg. Doz. sets $4.18

F1776—Large size polished ebony finish and rock maple, carved knights, others beautifully turned, each set in sliding cover wood box. 1 doz. in pkg. . . . Set, 69c



F1823 — Standard No. 2 Staunton Set turned rock maple size with 1¾ in. base, hand carved knight, polished ebony and rock maple, each set in sliding top wood box. Doz. sets



F1826 — Large size turned ebony and rock maple, hand carved knight, each set in chessnut stained wood box. Set, Doz.

TINKER TOYS

Nationally advertised and in popular demand, These Tinker Toys sell rapidly because of their uniqueness and popular prices.

Tinker Toy— The Wonder Builder, smooth wood, [illegible] and circular [illegible] F2010—9 pcs. in pkg. Doz. sets $4.80

Flying Tinker Asst. 24 flyers, 10 packages of extra blades, 3 flyers on wheel FREE. [illegible] sorting business [illegible] display box [illegible] for [illegible] Asst $3.40

WELL KNOWN GAME BOARD

"Parlrest"—Standard quality and size as well known on the street, needs [illegible] to tell the story. F1795 1 in pkg. Temp Out 1 doz. lots. Doz. Temp Out

Carom & Frankish [illegible] games (Frankish [illegible] maple finish, mahogany finish cabinet panel, full cushions, [illegible] order enough of these. F1804—1 in carton, 15 lbs. Each. ★4.50

Star Archery—50 games [illegible] equipment. 30 in. white maple carom discs, 8 ply white birdseye maple panel with fancy inlay checker board and backgammon [illegible] with [illegible] finish panel decorated with flags of all nations. F1795—1 in carton 14 lbs. ★6.75

FOLDING CHECKER OR CHESS BOARDS

"Ideal"—Heavy litho red & black varnished playing surface, gold outlined border, linen finish outside. 1 doz. and checkers F1751—12x12 in. 1 doz. in pkg. Total Wt. 36 lbs. Doz. 42c

F1755—15x15 in. 2 doz. in pkg. (Total Wt. 50 lbs. Doz. 39c

AUTOMOBILE JACKS.

RELIABLE.

Malleable Iron Body, Gear and Thumb Wheel, Aluminum Finish; Machine Cut Steel Worm, Swivel Top; Malleable Iron Lever, with Reversible Pull Spring Ratchet Latch.

By means of Thumb Wheel Gear on side, the Worm can be quickly run up to contact the Load, and by making three or four strokes of the lever, the Load will be Lifted.

In lowering the Load, the Spring Ratchet Latch on Lever is reversed by Thumb Pressure, the Load is then lowered by the same stroke as it was raised

Self-locking at any point, making it impossible for the Load to drop by accident.

No. 1A especially adapted for Automobiles; a Light, Handy Jack for its purpose

	Per Dozen
No. 1A—Capacity 2 tons; Height, closed 10¾ in.; Height, extended 18 in; Size of Base 3¼ in.; Diameter of Worm ⅝ in.; Size of Head 1⅞x3⅛ in.; Weight, each about 5½ lbs.	$42.00

Packed Loose.

Malleable Iron Throughout; Black Enameled Finish; Lifts and Lowers Load by Upward and Downward Stroke; Has Two Steps; If the Top Step will not fit under the Axle the Second Step can be used; Socket for Handle with ¾ in. Opening; Complete with Hardwood Handle 9 in. Long; Height to Top Step when Lowered 9⅝ in., to Bottom Step 5½ in.; Height to Top Step when Extended 18¾ in., to Bottom Step 11⅝ in.; Base 3¼x5 in.

	Per Dozen
No. 44—CAPACITY 1 TON. Weight per doz. about 72 lbs.	$33.00

One-twelfth Dozen in a Fibre Box.

BLUE ENAMELED FINISH.

Malleable Iron Body, Gear and Wheel; Machine Cut Steel Worm; Flat Malleable Iron Lever; Malleable Iron Dog which can be adjusted for Lowering or Raising the Worm Self-Locking, Can be Quickly Adjusted by Raising the Worm and Turning the Gear to the desired Height; Large Size Gear makes the Jack very speedy in its operation.

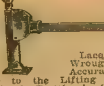
	Per Dozen
No. 1R—CAPACITY 1000 LBS., Hgt. over all 9⅝ in., Height extended, 16 in.; Length of Lever 9 in.; Size of Base 2½x4 in.; Diameter of Worm ⅝ in.; Size of Head 1x1⅝ in.; Weight per dozen about 33 lbs.	$20.30

	Per Dozen
No. 3A—CAPACITY 3000 LBS., Height over all 10 in.; Height extended, 16 in. Length of Lever 10 in.; Size of Base 2¾x4¾ in.; Diameter of Worm ⅝ in.; Size of Head 1⅞x2 in.; Weight per dozen about 48 lbs.	$29.70

Packed Loose.

AUTOMOBILE JACKS.

LANES "HANDLE CONTROL".



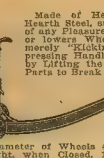
Lacquered Pressed Steel Frame; Solid Wrought Steel Lift Bar with Notches Accurately Machined; Pawls are fitted close to the Lifting Bar and are Self-locking and Absolutely Positive in Action; Springs are made of Best Piano Steel Wire; STAMPED STEEL FOLDING EXTENSION LEVER WITH BROAD FLAT HANDLE 36 in. LONG, which permits Jack to be placed in position without the necessity of Operator getting under Car or in contact with Dirt or Grease.

Nos.	14A	16A
Capacity, lbs.	3000	4500
Height, Closed, Inches	10	10½
Height Extended, Inches	16¼	16¾
Size of Base, Inches	4x3	4¼x3
Size of Head, Inches	1x1½	1x1¾
Weight per dozen about, lbs.	96	132
Per dozen	$33.50	90.00

Packed Loose.

Is of Strong, Sturdy Construction, Compact, Light in Weight and Quickly Manipulated, Has a Reverse Action which enables the Load to be Raised or Lowered by Upward and Downward Strokes of Handle and is CONTROLLED AND OPERATED ENTIRELY FROM OUTER END OF HANDLE; For Raising, Handle is pushed all the way into the Socket; For Lowering, Handle is pulled back in the Socket; A Spring Catch holds the Handle in either position while Operating and must be released to remove Handle from Jack; The Lift Bar can be Quickly Dropped by Pinching the Automatic Release, located on

HOVEY.



Made of Heavy Malleable Iron and Open Hearth Steel, sufficiently Strong to Raise Wheel of any Pleasure Car; Instant in Operation, raises or lowers Wheel in One Second. Operates by merely "Kicking up" Movable Head and Depressing Handle; Locks by Gravity; Lets Down by Lifting the Handle; No Springs or Delicate Parts to Break or Wear, will last a Lifetime.

Diameter of Wheels 4¾ in.; Length of Handle 4 ft.; Height, when Closed, 13 in. when Extended 17⅝ in.; Width 8½ Inches 5 in.

	Each
No. HJ—Weight each about 18 lbs.	$16.00

Packed Loose.

SATISFACTION

We buy more goods than any other Hardware concern in the world.

We carry a larger assortment than any other Hardware concern in the world.

We sell more goods than any other Hardware concern in the world.

We have more customers than any other Hardware concern in the world.

WHY?

Lowest Prices.
Good Service.
Complete satisfaction of the old-fashioned kind.

We appreciate your business more than any other house in the world.

SEND US YOUR MAIL ORDERS

AUTOMOBILE JACKS.

BADGER.

Malleable Iron, Strongly Ribbed, Standard with Steel Side Plates screwed on; Extra Large Substantial Base, well ribbed; Solid Steel Rack Bar, milled with Gang Milling Cutter, every Tooth is uniform; Strong Malleable Iron Head; *Lifting Pawls made from High Carbon Drop Forged Steel;* Accurately made Forged Steel Reversing Mechanism, Operated by Malleable Iron Trip Levers; Mechanism held securely in place with Special Automatic Screw Machine Parts; Malleable Iron Handle Socket accurately Cored and Machined; Complete with Hardwood Handle.

Operates with a Short, Quick Stroke, which makes Lifting easy; Pawls Automatically Lock at every Lift, preventing Rack from dropping with a Load; The Reverse is Simple and Positive; Constructed of Highest Grade Materials without any complicated or loose fitting parts to get out of order; Each Jack passes through a Rigid Strength Test before leaving factory.

NOTE—No. 1B is equipped with Auxiliary Step, Hinged to Cap, which at 1¾ in. in Height of Jack when in Position; No. 3B has no Auxiliary Cap.

Nos.	1B	3B
Capacity, lbs.	1500	2000
Height Closed, in.	9¾	11
Height extended, inches	14½	17
Size of Base, in.	3¼x9	4x9
Size of Head, in.	2x1¾	2¾x3
Length of Handle, in.	11	13
Wgt. per doz. about, lbs.	96	108
Per dozen	$53.70	68.50

No. 1B with Auxiliary Step Down.

No. 3B without Auxiliary Step.

WITH ADJUSTABLE FOOT LIFT.

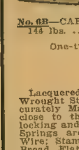
Designed to meet all conditions when Touring; Foot slides on Rack without removing any Bolts or Nuts and may be set at any height that the Axles may be from the Ground, is Strong and Well Ribbed and will carry nearly the same Load as the Top of Jack; Extended Base prevents Jack from Tipping when Foot is being used.

Height to Top when lowered 11 in.; To Foot 4¾ to 10¾ in.; Height to Top when extended 17 in.; To Foot 10¾ to 16¾ in.; Size of Base 6¼x4 in.; Size of Head 2x1½ in.; Length of Handle 12 in

Per Dozen

No. 6B—CAPACITY 2000 LBS.; Weight per dozen about 144 lbs. $85.00

One-twelfth Dozen in a Corrugated Carton.



Lacquered Pressed Steel Frame; Solid Wrought Steel Lift Bar with Notches Accurately Machined Out; Pawls are fitted close to the Lifting Bar and are Self-locking and Absolutely Positive in Action; Springs are made of Best Piano Steel Wire; Stamped Steel Lifting Lever with Bread Slot Handle, 15 in. Long, gives Sufficient Leverage to Lift its Full Capacity with Ease.

Is of Strong, Sturdy Construction, Compact Light in Weight and Quickly Manipulated; Has a Reverse Lever which enables the Load to be Raised or Lowered by Upward and Downward Strokes of Handle; After the Load is off of Jack, the Lift Bar can be Quickly Dropped by pinching the Automatic Release, located on the Right Side of Lifting Lever.

Nos.	4A	6A
Capacity, lbs.	2000	3500
Height, Closed, inches	10	12½
Height, Extended, inches	16¾	19½
Size of Base, inches	4x9	4¾x9
Size of Head, inches	1¾x1½	1¾x¾
Weight per dozen about, lbs.	96	97
Per dozen	$50.00	58.00

Packed Loose.

AUTOMOBILE JACKS.

VICTOR.

Malleable Iron Throughout; Heavy Lifting Pawl and Foot, will not Bend under a Heavy Weight; Has Oak Japanned Finish, Simple and Positive Spring Mechanism; Handle Stroke is very short with great Leverage making an easy lift; Extended Base prevents Jack from Tipping when Foot is used; Hardwood Plain Handle.

Height to Top when lowered 9½ in. Height to Foot when lowered 5¾ in. Height to Top when extended 15¾ in. Height to Foot when extended 11¾ in. Size of Base 3¼x6 in.; Size of Head 1⅞x1¾ in.; Length of Handle 10 in.

Per Dozen

No. 810—CAPACITY 1 TON; Weight per dozen about 60 lbs. $42.50

One-twelfth Dozen in a Carton.

SIMPLEX—SINGLE ACTING.

Operates on Down-stroke of Lever.

Malleable Iron Standard and Gear Case; Drop Forged Steel Handle Socket, Rack Bar and Pawls, Steel Bushings and Keys; Patented Simplex Spring Case, with Piano Wire, Pressure-tested, Coil Springs to govern Lifting and Lowering Pawls; Mechanism locks working parts in any position preventing dropping of load; Rack Bar can be Automatically raised up to load; Hard Maple Handle.

FOR LIGHT AND MEDIUM WEIGHT AUTOMOBILES.

Extra Foot Lift.

Per Dozen

No. 36—LIFTING CAPACITY ¾ TON; Lift 6½ in.; Height, closed, 10 in.; 15 in. Handle; Weight per dozen about 60 lbs. $48.00

FOR MEDIUM AND HEAVY WEIGHT AUTOMOBILES.

Adjustable Shoe which Locks in Seven different positions; Handy Grip Handle.

Per Dozen

No. 38—LIFTING CAPACITY 1 TON, Lift 6 in.; Height, closed, 10½ in.; 15 in. Handle; Weight per dozen about 78 lbs. $72.00

One-twelfth Dozen in a Fibre Carton.

Highest Quality Annealed Steel; Standard Pawls and Trips; Blue Enameled Finish; Lifts and Lowers Load by Upward and Downward Stroke; Socket for Handle with ⅞ in. Opening; Complete with Hard Maple Handle 15¾ in. Long; Extreme Height, when Lowered, 10¾ in., when Raised 16¾ in.; Base 3¼x8 in

Per Dozen

No. 1P—Capacity 1 Ton; Weight per dozen about 78 lbs. $48.50

Packed Loose.

We want to handle your MAIL ORDERS in just the way you want them handled.
We give you the same low prices on MAIL ORDERS as made by our salesmen.

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE

POKER CHIPS.

No. 1

No. 8

NO. 1—Plain, diameter 1⅛ in., composition, assorted colors . . . . Net per 100 $2 80
Net per 1000 27 00

NO. 2—Unbreakable paper, diameter 1½ in., assorted colors, light, noiseless, easy to handle, uniform in thickness, beautifully finished edges . . . . . Net per 100 3.10
Net per 1000 30.00

NO. 3—Engraved, diameter 1½ in., composition, assorted designs and colors, in popular and latest styles, well made, convenient and neatly put up . . . . Net per 100 4.60
Net per 1000 45.00

ONE HUNDRED IN A BOX; ASSORTED, 50 WHITE, 25 RED, AND 25 BLUE.

PLAYING CARDS.

No. 999

Nos. 48 and 97II

NO. 901—Renown or Uncle Sam. A good quality playing card . Net per doz. $5 50

NO. 999—Steamboat, blue star, green star, one and two color plaid and wave backs . . . . . Net per dozen $6.40
Net per gross 73.20

NO. 6—Hornet, Crow or Picket, extra quality, ivory finish, blue star, green star, two color plaid and wave backs . . . . . Net per dozen 7.50
Net per gross 86.40

NO. 48 (97)—Pinochle, standard size, 2¼x3½ in., 48 cards (9 spots low), ivory or air cushion finish, same grade as Bicycle and Kamo, printed in red and blue . . . . . Net per dozen 9.60
Net per gross 114 00

NO. 97II—Pinochle, while these are of the best quality there are some slight imperfections which in most instances could not be detected by the average person. . . . . Net per dozen 7.50
Net per gross 86 40

ONE DOZEN PACKS IN A BOX.

PLAYING CARDS.

Net per doz.

NO. 20—Elite, assorted red and blue backs, good quality enameled cards . . . $6.50

ONE DOZEN PACKS IN A BOX

No. 808

No. 92

BORDER BACKS.

NO. 808—Bicycle, ivory finish, have long, narrow, bold face club indexes unmistakable, a large variety of popular designs. . . . . Net per dozen 9.60
Net per gross 114.00

NO. 808L—Bicycle, Linen or Air Cushion Finish
Net per dozen 9.60
Net per gross 114 00

NO. 92—Bee, Smooth Finish, double enameled card of extra quality stock, new and original design backs, including blue and red plaids, printed in several colors. . . . . Net per dozen 9.60
Net per gross 114 00

NO. 92L—Bee, Linen or Cambric Finish
. . . . . Net per dozen 9.60
Net per gross 114 00

ALL OVER BACKS

All Over Backs—Nos. 808, 808L, 92 and 92L. 11.00
Net per gross 126.00

ONE DOZEN PACKS IN A BOX

NO. 606—Congress, gold edges, ivory or air cushion linen finish, club indexes, bold face, long and narrow, unmistakable, made in 90 different backs, we carry in stock an assortment of the best and newest designs, put up assorted in an easel display box. . . . . Net per dozen 13.50

NO. 606W—Congress. Whist size, narrow . . . . . Net per doz. 13.50

ONE DOZEN PACKS IN A BOX

"PAGOMA" is our guarantee of quality.

THREAD.

J. & P. COATS COTTON. 6 CORD.

	Net per doz.
NO. 8WC—White, 150 yards	$1.92
NO. 10WC—White, 150 yards	1.92
NO. 12WC—White, 150 yards	1.92
NO. 16WC—White, 150 yards	1.92
NO. 20WC—White, 150 yards	1.92
NO. 24WC—White, 150 yards	1.92
NO. 30WC—White, 150 yards	1.92
NO. 36WC—White, 150 yards	1.92
NO. 40WC—White, 150 yards	1.92
NO. 50WC—White, 150 yards	1.92
NO. 60WC—White, 150 yards	1.92
NO. 70WC—White, 150 yards	1.92
NO. 80WC—White, 150 yards	1.92
NO. 90WC—White, 150 yards	1.92
NO. 100WC—White, 150 yards	1.92
NO. 8BC—Black, 150 yards	1.92
NO. 10BC—Black, 150 yards	1.92
NO. 12BC—Black, 150 yards	1.92
NO. 16BC—Black, 150 yards	1.92
NO. 20BC—Black, 150 yards	1.92
NO. 24BC—Black, 150 yards	1.92
NO. 30BC—Black, 150 yards	1.92
NO. 36BC—Black, 150 yards	1.92
NO. 40BC—Black, 150 yards	1.92
NO. 50BC—Black, 150 yards	1.92
NO. 60BC—Black, 150 yards	1.92
NO. 70BC—Black, 150 yards	1.92
NO. 80BC—Black, 150 yards	1.92
NO. 90BC—Black, 150 yards	1.92
NO. 100BC—Black, 150 yards	1.92

JOHN J. CLARK'S BEST SIX CORD, 200 YARD SPOOL COTTON

This thread is guaranteed to be equal to any on the market. We are going to stand behind it.

	Net per doz.
NO. 8WJC—White, 100 yards	$1.92
NO. 10WJC—White, 100 yards	1.92
NO. 12WJC—White, 100 yards	1.92
NO. 16WJC—White, 100 yards	1.92
NO. 20WJC—White, 100 yards	1.92
NO. 24WJC—White, 100 yards	1.92
NO. 30WJC—White, 100 yards	1.92
NO. 36WJC—White, 100 yards	1.92
NO. 40WJC—White, 150 yards	1.92
NO. 50WJC—White, 150 yards	1.92
NO. 60WJC—White, 150 yards	1.92
NO. 70WJC—White, 150 yards	1.92
NO. 80WJC—White, 150 yards	1.92
NO. 90WJC—White, 150 yards	1.92
NO. 100WJC—White, 150 yards	1.92
NO. 8BJC—Black, 100 yards	1.92
NO. 10BJC—Black, 100 yards	1.92
NO. 12BJC—Black, 100 yards	1.92
NO. 16BJC—Black, 100 yards	1.92
NO. 20BJC—Black, 100 yards	1.92
NO. 24BJC—Black, 100 yards	1.92
NO. 30BJC—Black, 100 yards	1.92
NO. 36BJC—Black, 100 yards	1.92
NO. 40BJC—Black, 150 yards	1.92
NO. 50BJC—Black, 150 yards	1.92
NO. 60BJC—Black, 150 yards	1.92
NO. 70BJC—Black, 150 yards	1.92
NO. 80BJC—Black, 150 yards	1.92
NO. 90BJC—Black, 150 yards	1.92
NO. 100BJC—Black, 150 yards	1.92

VERY LATEST JOKERS

Comic Celluloid Buttons

SOLD IN ORIGINAL PACKAGES

I Love My Wife But No More Kids
YOU CANT VAMP ME
You'r a Wonderful Boy
You Tell'em I Stutter
I Shake a Wicked Shoulder
You'd Be Surprised ?
Won't You Be My JazzBaby
I Am Not Married

No. N550. Comic Celluloid Button Assortment. Size 60 lignes (1¼ inches), contains 25 assorted buttons, with snappy sayings, lettering in black, with fancy design red border. Complete with stick pin in back; 100 assorted buttons in package. No less sold.

Per 1000..... 12.00 | Per 100..... 1.35

Celluloid Buttons, Lithographed in Colors

The designs on these buttons are lithographed on celluloid tops in bright colors appropriate to each subject. Size 1¼ in. "Lodge Emblem Buttons," "Old Home Reunion," "Annual Fair," "Spirit of '76," "Fireman," "Cross Flags," etc., buttons that are much in demand and appropriate for many festive occasions; 100 in package, no less sold.

No. N585. Cross Flags, consisting of American and Irish republic. 100 in package.

Per 100..... 1.25

Lodge Emblem Celluloid Buttons, 100 of one style in package.

No.	Kind	Per 100
N552.	Masonic	1.25
N553.	Odd Fellows	1.25
N554.	K. of P.	1.25
N555.	Elks	1.25
N556.	M. W. A.	1.25
N557.	Eagles	1.25
N558.	Moose	1.25

Patriotic Celluloid Buttons, 100 of one style in package.

No.	Kind	Per 100
N586.	Spirit of '76	1.25
N587.	American Flags	1.25
N588.	Liberty Bell & Eagle	1.25
N589.	George Washington	1.25

No. N562. Old Home Reunion Celluloid Button, 100 in package.

Per 100..... 1.25

No. N577. Fireman Celluloid Buttons, 100 in package.

Per 100..... 1.25

No. N563. Annual Fair Celluloid Buttons, 100 in package.

Per 100..... 1.25

Novelty Celluloid Badges

PATRIOTIC

The Best Line at the Lowest Prices Sold in Original Packages Only

COMIC

No. N535.
Patriotic Badge with large white metal liberty bell attached. One doz. in package
Per gross . 3.00
Per dozen .27

No. N537.
Patriotic Badges, liberty bell with open bottom and clapper. One doz. in package.
Per gross.... 3.50
Per dozen.... .30

No. N580.
Novelty Celluloid Badge. "I Love My Wife But No More Kids," with 2 metal dolls for pendant. One doz. in package.

Per gross.... 4.50
Per dozen.... .40

No. N581.
Novelty Celluloid Badge. "Let's Get Acquainted," with automobile pendant. One doz. in package.

Per gross.... 4.50
Per dozen.... .40

No. N579.
Novelty Celluloid Badge. "Out for a Good Time," with china beer mug pendant. One doz in package

Per gross.... 4.50
Per dozen.... .40

No. N583.
Novelty Celluloid Badges. "Come Shimmie with Me" with small figure in fuzz dress for pendant. One doz. in package.

Per gross.... 7.00
Per dozen.... .60

No. N576.
Novelty Celluloid Badge. "You Can't Vamp Me," with small celluloid doll pendant. One doz in package,

Per gross.... 7.00
Per dozen.... .60

No. N570.
Novelty Celluloid Button, "Safety First," with small celluloid rattle attached, finished in two colors. One dozen in package.

Per dozen.... .85

No. N564.
Novelty Celluloid Badge. "It's Up to You Now," with celluloid Shriner doll pendant. One dozen in package.

Per gross.... 9.00
Per dozen.... .80

No. N573.
Novelty Celluloid Button. "Don't Be A," with celluloid donkey pendant

Per dozen.... 1.05

No. N572.
Novelty Celluloid Button. "Don't Be A," with celluloid pig pendant. One dozen in package

Per dozen.... 1.05

No. N571.
Novelty Celluloid Button. "Some Class to Me," with celluloid Kewpie doll pendant. One doz. in package.

Per dozen.... .95

THE SHURE WINNER PRICE LIST

Celluloid Novelty Dolls

N3545

N3475

No. N3545. Assorted Celluloid Figures, clothes and features in bright color combinations, rattle inside, 2½ inches high; packed 3 dozen in box.
Per gross.. 3.75 | Per dozen.. .32

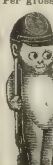
No. N3476. "Musician" Celluloid Doll; height 3 inches, natural tinted body, large eyes, green sash. These little fellows play various musical instruments. Two dozen assorted in box.
Per gross.. 4.50 | Per dozen.. .40

N3518

N3515

No. N3518. Celluloid Dolls. Height 3¼ inches, movable arms, natural pink tinted perfectly formed body, painted hair and features, with large black eyes that are full of mischief. Three dozen in box
Per gross.. 5.25 | Per dozen.. .45

No. N3515. Celluloid Dolls. Height 3¾ inches, movable arms, natural tinted features, painted hair, large expressive eyes, shoes, stockings, dress, hat, etc., in beautiful bright colors. Three dozen assorted boys and girls in box
Per gross.. 5.25 | Per dozen.. .45



Soldier Boy

No. N3506. Celluloid Soldier Boy, flesh tinted body, painted cap, sword, gun and features, rattle inside, 3½ inches high. One dozen in box.
Per dozen..... .65

Shriner Doll

No. N3519. Celluloid Shriner Doll, with colored fez, attractively colored in bright combinations, painted features, rattle inside, 3½ inches high. One dozen in box.
Gross..... 6.50 . Dozen..... .60

Carnival Kid

No. N3575. "Carnival Kid" Celluloid Doll. Height 4⅝ inches, attractive, bright colors, black shoes, red trousers, pink coat edged with yellow, red buttons, red and green spangled collar and high hat, natural tinted features, rattle inside One dozen in package.
Per dozen..... .70
Per gross..... 8.00

No. N3520. Celluloid Dolls, rattle inside, height 5½ inches, painted hair, natural tinted features, great big black eyes. Shoes, stockings, dress, hats, etc., in beautiful bright colors. Two kinds, boys and girls, assorted. One dozen in box.
Per dozen..... 1.20

Rose O'Neill Kewpie

N3516

N3588-89-92

Genuine Rose O'Neill Kewpie Doll. No doll was ever made to equal this one in outline, pose or expression. Beautifully tinted bodies in natural pink flesh color, big black eyes, tinted hair, the most popular of all dolls for favors, souvenirs, etc. Comes in 4 sizes

No. N3516. Height 2¾ inches. Three dozen in box.
Per dozen.. .65 | Per gross.. 7.25

No. N3588. Movable arms. Height 3½ inches One dozen in box. Per dozen 1.75

No. N3589. Movable arms. Height 4½ inches One dozen in box Per dozen 3.25

No. N3592. Movable arms. Height 6½ inches. One dozen in box. Per dozen..... 7.50

Dutch Boy

No. N3517. Celluloid Dutch Boy and Girl Dolls. Painted clothes and features, perfectly formed, made of heavy stock, 4¾ inches high, rattle inside. One dozen in box
Per dozen.... 1.75

Beauty Doll

"Beauty Doll," made of celluloid, in sitting position, perfect in form, tinted features, large eyes, black shoes, yellow stockinettes, black and white polka dot dress, brown color waving hair. A winsome doll that appeals to all. One dozen in box.

No. N3495.
Height 3 inches
Per dozen.... 1.25

No. N3339.
Height 4 inches.
Per dozen.... 1.75

WHOLESALE N. SHURE CO. CHICAGO.

Novelty Dolls, Dogs and Teddy Bears

Novelty Doll in sitting position. Large black eyes, natural tinted body, black shoes, colored bathing suit and painted hair. Height 8 inches.

No. N3694. Novelty Doll, 6 doz. in barrel. No less sold.
Per dozen..... **2.95**

No. N3694½. Novelty Doll, each in box, 6 dozen in case. One-half dozen least sold.
Per dozen..... **3.75**

N3681.

N3682.

No. N3681. "Soldier Doll," at salute, standing on 3 inch round base; height 14 inches, natural tinted nude body, imitation lace boots, red sash, regulation U. S army cap; 2 dozen in barrel; no less sold.
Per dozen..... **4.00**

No. N3682. Sailor Doll, at salute height 14 in.; imitation lace boots, yellow sash, regulation sailor hat with U. S. N. on hat band. Two dozen in a barrel, no less sold.
Per dozen..... **4.00**

No. N3686. Novelty Doll, in sitting position. A roguish little lady with large black eyes, with hair wigs in assorted colors, net covering face and hair, natural tinted body, black shoes, yellow polka dot bathing suit. Height 6 inches. Each in box; 8 dozen in case.
Per dozen **6.00**
Per dozen in case lots ... **5.50**

N3639.

N3611.

No. N3639. Boy Doll, composition head, moulded hair, with painted and tinted features, movable arms and legs, movable head, gingham romper suit with collar and belt, in assorted colors. Height 12 inches. One dozen in box. Per dozen..... **2.10**

No. N3611. Doll, two styles assorted, boys and girls, composition head with moulded hair and hands, nicely tinted and painted features, movable arms and legs, dressed in two-color gingham dresses with fancy collar and cuffs, assorted styles; average height 14 inches. One dozen in box. Per dozen..... **4.25**

Glass Eye Bull Dog

No. N6514. Bull Dog. The outline and pose of this thoroughbred dog is perfect in every detail. Made of hard finish plaster, dark, brindle in color; height 10 inches, big brilliant glass eyes; 1 inch wide gilt studded collar, making an excellent ornament; 2 dozen in barrel; no less sold.
Per dozen..... **4.00**

French Poodle Dogs

French Poodle Dog, made of brushed, fleece white canton flannel, plump stuffed face, nose and mouth defined by black yarn, natural colored glass eyes, fur of extra quality, thick and long silk ribbon bow, tail fur trimmed.

No. N3949. Height 8¼ inches, length 10 inches. Four pounds to dozen; ½ dozen in package.
Per dozen..... **4.50**

No. N3958. Height 11 inches, length 12½ inches, 8½ pounds to dozen. 1/3 dozen in package.
Per dozen..... **6.50**

Teddy Bears

Teddy Bears. Full, plump body and limbs, well shaped head, bright glass eyes, nose and mouth sharply defined by heavy black yarn, paws faced with skin colored felt, fine grade of brush pile bear cloth. First-class workmanship.

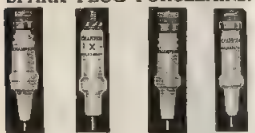
No. N3952. Height 14 inches, 10 pounds to dozen, 1/3 dozen in package. Per dozen..... **8.25**

No. N3953. Height 18 inches, 12 pounds to dozen, 1/3 dozen in package. Per dozen..... **12.50**

No. N3955. Height 22 inches, 18 pounds to dozen, 1/3 dozen in package. Per dozen..... **15.00**

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE.

SPARK PLUG PORCELAINS.



No. A102. No. A105. No. A104. No. B103.

INSULATOR PLUG TYPE.

	Net Each
NO. A102—A-13, A-43, A-63	$0.60
NO. A104—A-14, A-44, A-64	.60
NO. A104-0—A-14-0	.56
NO. A105—A-15	.54
In lots of 100	.50
In lots of 1000	.48
NO. A304—A-84	.66
NO. A303—A 53, AA-53	.66
NO. A304—A-24, AB-44	.60
NO. B103—B-13, B-43, B-73, B-53	.66
NO. B503 B-83	.66
NO. H104—H 14, H-44, H-64	.60

Symbols ending with 3 are Conical Insulators.

Symbols ending with 4 are Petticoat Insulators.

Weight 2 oz.

THE "PLAIN" PLUG.

No. 227.

GUARANTEED.

	Net Each
NO. 227—⅛ inch **FORD** Special, same size and design as plugs with which **FORD** cars are originally equipped— Single lots	$0.16

Weight ¼ lb

PLAIN PORCELAINS.

No. 27A.

	Net Each
NO. 27A—Porcelain, for No. 227 spark plug. Baked under a heat of 2000 degrees F., which prevents any possibility of their cracking while in use— Single lots	$0.21

Weight 2 oz.

"A-C-CICO."

A. C. Cico Plugs are guaranteed gas tight. Every plug is subjected to 150 lbs. air pressure to assure its being gas tight. Automobile manufacturers prefer the A. C. line on account of efficiency and smooth running motors at all speeds.

Factory equipment on Henderson.

	Net Each
NO. 501—¼-inch Standard Thread, recommended for use on Studebaker, Overland and all cars using ⅛-inch plugs	$1.00
In lots of 10 to 99	.95
In lots of 100	.94
In lots of 1000	.90

Weight ¼ lb.

"A-C-CICO."

Factory equipment on Reo.

	Net Each
NO. 505—⅛-inch long, Standard thread, the correct size and type for Overland to 1915	$1.00
In lots of 10 to 99	.98
In lots of 100	.94
In lots of 1000	.90

Weight ¼ lb.

Factory equipment on Chevrolet "490."

	Net Each
NO. 506—⅞-inch long, A. L. A. M. thread, especially recommended for use on Buick cars, also Harley-Davidson Motorcycles	$1.00
In lots of 10 to 99	.98
In lots of 100	.94
In lots of 1000	.90

Weight ¼ lb.

Factory equipment on all Dodge cars "DODGE" SPECIAL.

	Net Each
NO. 507—⅞-inch A. L. A. M thread, slightly longer than regular No. 502	$1.00
In lots of 10 to 99	.98
In lots of 100	.94
In lots of 1000	.90

Weight 5 oz.

Factory equipment on Saxon.

	Net Each
NO. 503—S. A. E., or A. L. A. M. Standard ⅞-inch 18 thread with small body.	$1.00
In lots of 10 to 99	.98
In lots of 100	.94
In lots of 1000	.90

Weight ¼ lb.

Factory equipment on Bour-Davis, Detroiter, Dort, Federal Truck, G. M. C. Truck, Hudson, Hupmobile, Liberty, Lambert, Paige, Patterson, Pilot, Sterling Motors, Wisconsin Truck.

	Net Each
NO. 502—⅞ A. L. A. M. Thread	$1.00
In lots of 10 to 99	.98
In lots of 100	.94
In lots of 1000	.90

Weight ¼ lb

AC Spark Plugs

The Standard Quality Plugs of the World

THE CARE OF SPARK PLUGS.

The correct gap for Standard Spark Plugs is .025 to .028 of an inch

Cleaning Points and Porcelain.—Clean carbon or scale off points with emery cloth or sand paper. Do not use emery cloth or sand paper on porcelain. To clean porcelain use denatured alcohol, filling lower part plug and using special AC tool or small wire with hook on end to scrape and loosen carbon, then wipe clean with cloth or waste.

Note sectional view of Titan plug next page—the basic construction of the Cico is the same, only the porcelain has no threaded hole, the center electrode being cemented in.

Modern motors are of small bore, high compression and high speed type, therefore, it is absolutely essential that the electrodes be quite short and of material or size necessary to prevent becoming red hot and causing preignition. The same is true of plugs which have several electrodes, or one central electrode of thick section. In this latter type plug the porcelain is known as petticoat type. There is breakage in this type due to heat developed by large electrode

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE.

The following is quoted from the instruction book in each **FORD** car:

"There is nothing to be gained by experimenting with different makes of plugs. The make of plugs with which **FORD** engines are equipped when they leave the factory are best adapted to the requirements of our motor".

Net Each

NO. A15—½ inch FORD
Special $1.00
In lots of 100 96
In lots of 1000. 92
Weight ¼ lb.

Champion

"TOLEDO MADE FOR THE WHOLE WORLD'S TRADE"

For use in American, Apperson, Auburn, Chandler, Haynes, Marmon, Mercer, Monroe, Oakland, Oldsmobile 8, Premier, Revere, Seneca, Stutz, Stearns-Knight, Templer, also truck and tractor engines.

Net Each

NO. JC43 — ⅞-18 heavy duty—
Single lots $1.16
In lots of 100. . . . . 1.12
In lots of 1000. . . . . 1.08
Weight 6 oz.

Made with 1⅛ inch Hex. for use in Buick cars, tractor, truck, farm and stationary engines.

Net Each

NO. AA53—⅞-18 long—
Single lots $1.16
In lots of 100. . . . . 1.12
In lots of 1000. . . . . 1.08
Weight 6 oz

OVERLAND PLUG.

Specially recommended to meet the requirements of the Overland motors.

Specially adapted for tractor, truck, farm and stationary engines where a standard ½ inch plug is used.

Net Each

NO. A14—½ inch regular—
Single lots $1.16
In lots of 100. . . . 1.12
In lots of 1000 . . . 1.08
Weight ¼ lb.

TWO-PIECE.

Specially adapted for heavy service cars, tractors, trucks, farm and stationary engines. ⅞ inch size for use in Columbia, Cadillac, Dorris, Kissel Kar, McFarlan Six, Overland Six, Willys Knight, Willys-Six, Winton

Net Each

NO. B18—½ inch heavy stone—
NO. B48—⅞-18 A. L. A. M.—
Single lots $1.36
In lots of 100. . . . . 1.26
In lots of 1000. . . . . 1.92
Weight 6 oz

For use in Begga, Bell, Briscoe, Climber, Deroitter, Geronimo, Hanson, Jackson, King, Mathobn, Olympian, Sayers, Talsa and heavy service trucks and tractors.

Net Each

NO. JA48—⅞ inch A. L. A. M., heavy duty—
Single lots $1.16
In lots of 100. . . . . 1.12
In lots of 1000. . . . . 1.08
Weight 6 oz.

MAXWELL FACTORY EQUIPMENT PLUG

For use in Biddle, Dodge, Gardner, Highlander 6, Mitchell, Spaulding, States, and tractors, trucks, farm and stationary engines.

Net Each

NO. A44—⅞ inch, petticoat porcelain—
Single lots $1.16
In lots of 100. . . . . 1.12
In lots of 1000. . . . . 1.08
Weight ¼ lb.

For Studebaker cars made previous to 1920 models, and truck, tractor, farm and stationary engines.

Net Each

NO. A13—½ inch standard—
Single lots $1.16
In lots of 100. . . . . 1.12
In lots of 1000. . . . . 1.08
Weight ¼ lb.

For use in Australian Six, Cole, Chalmers, Hudson, Liberty, Locomobile, Moon, National, Peerless, Hupmobile, and heavy service trucks and engines.

Net Each

NO. JA848—⅞ inch A. L. A. M., heavy duty—
Single lots $1.16
In lots of 100. . . . . 1.12
In lots of 1000. . . . . 1.08
Weight 6 oz.

FORDSON TRACTOR.

Equipment on Fordson tractors and for use in engines requiring this type of plug.

Net Each

NO. A24—½ inch long—
Single lots $1.00
In lots of 100. 96
In lots of 1000. 92
Weight ½ lb.

For use in engines requiring an extra long extension plug such as Metz, etc.

NO. A34—½ inch extra long—
Single lots $1.16
Lots of 100 . . . . . 1.12
Lots of 1000. . . . . 1.08

HEAVY DUTY.

Net Each

NO. J13—½ inch Overland—
NO. J25—½ inch long Reo Special—
Single lots $1.16
In lots of 100. . . . 1.12
In lots of 1000. . . . . 1.08
Weight 6 oz.

CHAMPION GASKETS.

Patented copper asbestos gaskets—an exclusive feature of all Champion Spark Plugs

	Net Per 100
NO. 11 Upper Copper Asbestos Gasket	$4.00
NO. 12—Lower Copper Asbestos Gasket	4.00

Weight 14 oz. per 100.

Will start a motor on the first quarter turn. Brings gasoline right to the sparking point. A good winter seller

Net Each

NO. H14—½ inch priming—
NO. H44—⅞ A. L. A. M priming—
Single lots $1.68
In lots of 100. . . . . 1.64
In lots of 1000. . . . . 1.60
Weight ½ lb.

A dealer when purchasing Champion Spark Plugs in quantity lots may assort order in any number of types. Insulators do not apply.

"PAGOMA" goods are quality goods.

Dealers' Counter Display No. 10

A New Display Case of EMPRESS Grease and Oil Cups

Only such cups as have proven themselves quick and ready-selling styles and sizes are included in this assortment. All cups are standard equipment on motor cars, trucks and tractors, and are in constant demand as repair and replacement parts. A complete stock on a small investment.

Your Jobber Has Them

REG U S PAT OFF

Write for Descriptive Folder L

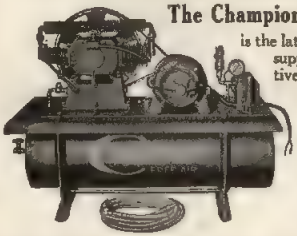
Bowen Products Corporation

Auburn Division **Auburn, New York**

Business is Always Good for the Garage That Gives

CHAMPION AIR SERVICE

Motorists and truck drivers invariably stop for air at the place where they know they can get quick and dependable service. And for gas, oil and supplies they naturally go to the same place.



The Champion Air and Water Stand

is the latest and most satisfactory means of supplying free air. Handsome, attractive, automatic and positive in action. No accidents—when hose is released it returns *gradually* to its normal vertical position. Champion Air Compressors combine incomparable service with extremely low upkeep cost. Made in many types for every need.

Write for Our Literature. Dept. A

Champion Pneumatic Machinery Co.

1402 S. Michigan Ave. CHICAGO

Novelty Figures, Jumping Jack, Etc.

DANGLING FIGURE

No. N211. Dangling Pheasant. Length about 6 inches; composition body in natural colors, painted eyes, mouth, etc., with long tail of natural feathers, beautifully colored, complete with spiral wire hanger. One dozen in package
Per gross.. 3.50 | Per dozen.. .30

No. N210. Dangling Rooster. Composition body in natural colors, painted eyes, bill and comb, with long wing and tail of real feathers, beautifully colored; length about 6 inches. Complete with spiral wire hanger. One dozen in package.
Per gross.. 3.50 | Per dozen.. .30

No. N213. Bird on Perch. Length 3 inches. Made of composition, tinted in natural colors, painted tail, wings, eyes and bill. Standing on a moss covered perch, suspended by a wire and spiral wire hanger. One dozen in package.
Per gross.. 3.50 | Per dozen.. .30

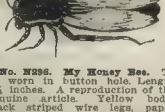
No. N216. Dangling Monkey. Height 3¾ inches. Made of composition, body covered with thick fur, painted features and dangling feet. Complete with spiral wire hanger. One dozen in package.
Per gross.. 4.00 Per dozen.. .35

No. N217. Dangling Wild Man. Height 2½ inches. Made of composition, painted black, lower part of body covered with thick fur, tinted eyes and mouth. Complete with spiral wire hanger. One dozen in package
Per gross.. 1.75 | Per dozen.. .15

DOG FIGURE

No. N267. Novelty Dog Figure. Made of composition and finished in natural dappled gray with painted eyes and mouth. Height 2½ inches, with spiral wire wagging tail and fore paws. One dozen in package
Per gross.. 3.75 | Per dozen.. .32

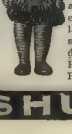
MY HONEY BEE



No. N286. My Honey Bee. To be worn in button hole. Length 3¼ inches. A reproduction of the genuine article. Yellow body, black striped wire legs, paper wings, beaded eyes. Complete with wire hanger. Two dozen in box.
Per gross.. 4.00 | Per dozen.. .35

No. N274. Charlie Chaplin Figure. With wire hanger, made of composition and brightly colored in appropriate colors. Height, 3 inches; 3 dozen in box.
Per gross.... 3.00
Per dozen.... .27

FUNNY DOLL



No. N288. Rain Doll. Height 3¼ inches. Made of composition, natural brown skin finish, short, thick black hair, long haired girdle, movable arms and legs. Attached earrings and necklace. Come in assorted figures. One dozen in package.
Per gross 5.25
Per dozen ..... .45

JUMPING JACK

38N8 38N9

No. 38N8. Jumping Jack. Height 9 inches. Jointed wood figure, body and head finished in bright colors, wood frame, also in colors. Pressing causes figure to perform many difficult and amusing feats. Three dozen in package.
Per gross.. 4.80 | Per dozen.. .40

No. 38N9. Bird on Stick. Four kinds assorted. Height 15½ in. Jointed wood figure of birds on stick finished in bright colors. By pushing slide up and down on stick, birds will perform many difficult and amusing feats. Three dozen in package.
Per gross.. 4.80 | Per dozen.. .40

JOCKEY BALL

No. 38N35. Jockey Balancing Ball. Consists of a highly lithographed figure horse with Jockey, 4½ inches high, mounted on 2¼ inch hollow metal ball. When rolled along the floor, figure will always remain in an upright position
Per gross.. 8.75 | Per dozen.. .75

No. 38N34. Clown on Ball. Height 6 inches, otherwise same as above.
Per gross.. 8.75 | Per dozen.. .75

TOY MAGNET

No. N 379 6. Magnet, red enameled top, mounted on attractive card. A very amusing article. Length of magnet 2¾ inches. One dozen in box.
Per gross. 8.50
Per dozen. .75

Dangling Toys, Spiders, Trick Cameras, Etc.

Novelty Dolls

No. N324. Dolls, with wire spring hangers. Two kinds assorted. Made of composition, finished in rich natural colors. Height 2¾ in. One dozen in box. Per gross.. 3.75 | Per dozen.. .33

Dangling Toys

No. 3385. Dangling Figures. Assorted animals, composition body, hands and feet. Lower part of body covered with fur, a very hideous looking animal. One dozen in package.

Per gross.. 2.75 | Per dozen.. .25

No. 3386. Dangling Figures, height 3½ inches; a good reproduction of a monkey with painted face, brown composition body, feet and hands, long fuzz on lower part of body. One dozen in package.

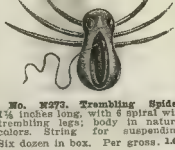
Per gross.. 2.75 | Per dozen. .25

No. N285. Dangling Figure, made of composition, 7 inches in height, finished in bright colors, spiral wire legs and arms, with clay feet and hands. When jogged up and down they represent a very comical and merry making appearance. One dozen in box.

Per dozen..... .40

No. N280. Dangling Figure, a wonderfully comical figure, height 2¾ in. by 1½ in. wide. Furnished in bright colored painted clothes; features, eyes, etc., spiral wire hanger. A little fat figure that causes no end of fun. One dozen in box. Per dozen. .40

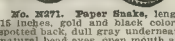
Trembling Spiders



No. N273. Trembling Spider, 1¼ inches long, with 6 spiral wire trembling legs; body in natural colors. String for suspending. Six dozen in box. Per gross. 1.00

No. N277. Trembling Spider. This is a fine copy of an ugly monster spider; body 2½ inches long, finished in strong bright colors, red nose, green body; decorated with white and yellow; has large eyes; 8 large spiral oscillating legs and 2 large spiral wire antennae. The most dangerous looking spider imaginable. One dozen in package.

Per gross.. 4.00 | Per dozen.. .35



No. N271. Paper Snake, length 15 inches, gold and black colored spotted back, dull gray underneath, natural bead eyes, open mouth and protruding tongue. Made of paper closely braided, flexible and is a fine representation of an original snake. One dozen in package

Per gross.. 4.50 | Per dozen.. .40

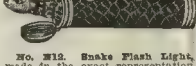
No. N276. Paper Snake, length 30 inches made of closely braided paper and black and dull gray spotted back, dull gray underneath, shaped head with natural bead eyes, open mouth with protruding tongue. Has the exact appearance of a real snake. One dozen in a package.

Per gross.. 9.00 | Per dozen.. .80

No. N282. Metal Snake. Illuminated, brilliant green color, 8½ inches long, green head, open mouth, red inside Snake is made of crinkled narrow metal ribbon, grained color effect, spirally wound into the shape of a snake body; extends to a considerable length. Gives the appearance of a natural green snake. Each in box. One dozen in package.

Per dozen..... .80

Snake Flashlight



No. N12. Snake Flash Light, made in the exact representation of a flash light, bright metal ends. The hinged cover is equipped with a glass lens, held in a shut position by a metal spring fastener. Inside of the flash light is concealed a snake 9½ inches long, which jumps out on releasing the cover. Made of spiral wound steel spring, covered with heavy paper printed in colors, with painted head, eyes, etc. The exact reproduction of a snake. A big surprise awaits the one who opens it. One dozen in box.

Per gross. 10.00 | Per dozen. .85

Trick Snake Camera

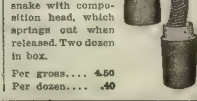
No. N23. Snake Camera. An exact reproduction of a camera, size 3¼x2¼x3¼ in. Leatherette covered with carrying strap and imitation view finder. It is equipped with glass bull's eye shutter release, which, when pulled, releases a 12-inch wire, cloth-covered snake One-half dozen in box.

Per dozen..... 1.95

No. N14. Snake Camera, a dandy little joker, made in imitation of a leatherette covered camera, size 3¼x2¼x1¾ inches. Contains 8-inch snake which is automatically released by bright metal clasp. One dozen in box.

Per dozen..... .85

Snake in Bottle



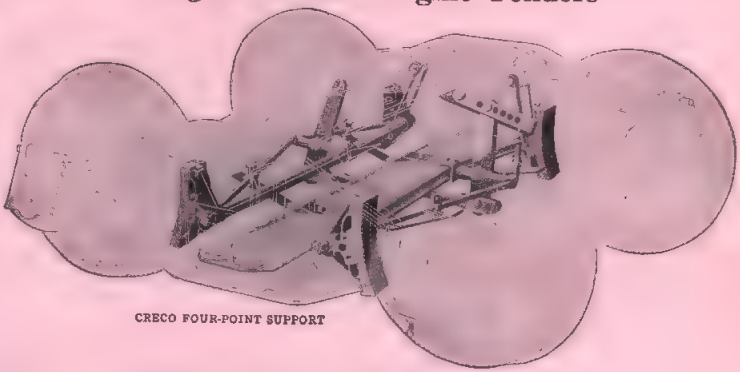
No. N457. Snake in Bottle, a new and interesting novelty, fancy colored bottle, height 3 inches. Contains snake with composition head, which springs out when released. Two dozen in box.

Per gross.... 4.50
Per dozen.... .40

Brake Beam Supports

FOR

Freight Cars and Engine Tenders



CRECO FOUR-POINT SUPPORT

1. **Makes brake shoes wear evenly.**
   - (a) Stops destructive practice of turning shoes.
   - (b) Stops waste of brake shoe metal.
2. **Prevents brake beams coming down.**
   - (a) Stops derailments.
3. **Reduces train resistance.**
   - (a) Entire shoe released from wheel when brakes release.
4. **Makes operation of brakes more dependable and more effective.**
   - (a) Holds rigging in proper position.
   - (b) Transmits full braking air pressure to the shoes.
5. **Decreases**
   - (a) Car Repair Expense, labor and material.
   - (b) Car and train delays.
6. **Increases train tonnage.**

P. C. CRECO BRAKE BEAM

(For complete description see under heading of Beams, Brake, in the classified material section)

Creco, National Hollow, Diamond, Kewanee, Reliance, Drexel, Ninety-Six, Sterlingworth, Monarch and other types of metal brake beams.

Chicago Railway Equipment Co.

The World's Brake Beam Builders **Chicago**

"Specification"

Malleable Castings
For All Purposes

The Marion Malleable Iron Works
MARION - INDIANA

Grand Rapids Malleable Works
GRAND RAPIDS, MICH.

Railroad and Automobile Castings

Charcoal Iron Castings
A Specialty

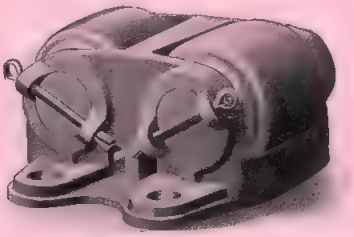
MAKE YOUR LINE CONSTRUCTION PERMANENT

Operating officials who have difficult cross-over problems will find a solution in Franklin Steel Poles. These sturdy small base structures are especially effective where limited right-of-way space makes the wide base tower impossible.

FRANKLIN STEEL WORKS
FRANKLIN, PENN., U.S.A.

The Pound Of Pull

developed in the locomotive goes further when you can reduce Wheel Flange Wear



Economy Roller Side Bearing
Lubricated, heavy case hardened axles and rollers—unlimited travel.

Drexel Roller Side Bearing

Dirt, snow and ice cannot interfere with free operation. Large contact surface. Positive centering. Open to inspection. Strong. Simple.

Wheel flange wear, cost of truck repairs, cost of transportation decreased by the use of such side bearings as the Creco, Economy or Drexel, and the life of a car wheel prolonged.

This company placed the **first** successful anti-friction side bearing on the market twenty years ago—and thousands are in use today.

Creco Roller Side Bearings
Drexel Roller Side Bearings
Economy Roller Side Bearings
Creco Slack Adjusters
Monitor Bolsters
Creco Sliding Three Point and Four-Point Brake Beam Support
Duplex Struts

Chicago Railway Equipment Company
CHICAGO

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE.

FIELDERS' GLOVES.
PROFESSIONAL MODELS.

PAGOMA
FULLY GUARANTEED

"THE KIND THE BIG LEAGUE PLAYERS USE."

These gloves are made according to the ideas of the big league players, suggested to them by their experience while in actual play. They found these gloves best suited to properly serve them in close situations, and many difficult feats, requiring such marvelous speed and accurate control, would fail were it not for the construction of these gloves

Specially tanned flexible glove leather, and only the finest materials enter into their construction. Made by the most skillful glove makers with their greatest care and attention Each glove guaranteed perfect.

Made in rights and lefts, rights must be ordered special from factory.

Used Constantly and Highly Recommended Under Factory Brand by Such Prominent Players as--

Mathewson, Moore, Tinker, Isbell, Evers, Herzog, Johnson, Hoffman, Snodgrass, Fletcher, Mitchell, Lobert, Young, Collins, Alexander, Chappelle, O'Toole, Brown, Wagner, Merkle, Cobb, Wood

$8.00

Model G — Net per doz.

MODEL G John Evers scoops up the hot ones with this short finger model Especially adapted to infield play Velvet finished horsehide full leather lining No padding in palm, insures a firmer grip. Laced at wrist for adjusting pad. A very high grade glove..... $127.20

$5.50

Laced Wrist — Net per doz.

NO. 67 — Made on our most popular model, of strong, soft, brown tanned leather Has leather lining, laced wrist for adjusting the padding, arranged around the wrist and little finger, so as to form an ideal pocket. A splendid value which has never been equaled.... $87.60

$4.00

Net per doz.

NO. 37 A good sized glove of strong selected glove leather Well padded throughout Leather lined palm Welt lined fingers and back. Welted seams..... $63.60

$7.00

With Laced Wrist. — Net per doz

NO. 73—Christy Mathewson Model. Made of especially selected strong pearl glove leather. Leather lined throughout with welted seams. Well padded Laced wrist for adjusting padding to suit the wearer..... $108 00

$5.00

Net per doz.

NO. 57—Best pearl colored leather, has leather welted seams and kid leather lining. The padding is arranged so as to form a perfect ball-holding pocket. Splendid material and workmanship throughout..... $78 00

RIGHT HAND GLOVES.
For Left Handed Players

NO 57RH Same as No. 67 but for the Right Hand 78.00

$3.00

Net per doz.

NO. 29 - Made of best quality colored leather Felt padded and leather lined palm Special flexible padding and natural pocket arrange so that the ball sticks $48 00

$6.00

Laced Wrist — Net per doz.

NO. 69 This leather used in this very popular glove is a special grade of strong smoke gram tanned leather making a splendid flexible glove. Correctly padded with felt and has full leather lining, natural ready-broke ball holding pockets..... $84 80

$4.50

Net per doz.

NO. 43-An excellent glove, choice smoked finish chrome tanned leather, has leather palm lining and welted seams, a very attractive and durable glove with a roomy ball-holding pocket... $68.40

$2.50

Net per doz.

NO. 27 Large size glove, drab color kid leather. Correctly padded and felt lined, with deep flexible pocket, in which the ball sticks . . $38.40

ALL ARE PACKED ONE ONLY IN A BOX.

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE.

CATCHER'S MITTS.

GOLDSMITH PROFESSIONAL MODELS.

PAGOMA

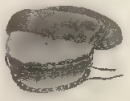
FULLY GUARANTEED

"The Kind the Big League Catchers Use."

These mitts have been thoroughly tested and approved by many of the greatest catchers in the world. They embody their best ideas and latest improvements, the result of years of experience in actual play. The palm and edge are made in one piece, the pocket is molded and held in shape by a special hand formed felt pad made in such a manner as to prevent its shifting or becoming soft or mushy.

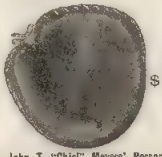
They are made of the finest and strongest materials throughout, with full laced edge and patent buckle protector, and show a technical perfection of manufacture, shape, style, size and balance.

Used Constantly and Recommended by Such Professional Players as:
Chief Meyers, Jim Archer, Wally Schang, Ray Schalk, "Hank" Gowdy and Many Others.



Showing style and manner of padding.

Showing thin edge scoop models.



Retail Price. $22.00

Net each

Model CM John T. "Chief" Meyers' Personal Designing. Choicest oil tempered box calf skin, specially hand-moulded and balanced. New finger grip attachment prevents slipping and turning, giving a sure grip. The special pad combines a section of flexible cowhide on which are built layers of asbestos felt. Each mitt is an exact duplicate of the one now used constantly by Chief John T. Meyers $20.00

Retail Price. $15.00

Showing new patent finger grip model and wrist protector

Net each

Model WC Scoop Model. Choicest craven tan calf skin palm and fingers with new finger grip. Hand-formed and modeled pocket, in which the ball sticks the very first time. Choicest felt padding and highest quality in every detail of construction $20.00

FIELDER'S GLOVES

PAGOMA

FULLY GUARANTEED

$1.75

Net per doz.

NO. 17 A liberal size glove of black colored leather. Made with soft felt padding. Natural ready-broke pocket formation. $27.60

$1.50

Net per doz

NO. 14—A liberal sized glove with strong leather for the palm, with canvas back fingers correctly padded with felt $24.00

SEE NEXT PAGE-
FOR BALANCE OF LINE

UNIFORMS

Write us for SPECIAL CATALOG showing SAMPLES AND PRICES

ALL ONE ONLY IN A BOX

Recorders, Speed, Railway

Burr Company, The, Champaign, Ill.
Chicago Pneumatic Tool Co., 1012 Chicago Pneumatic Bldg., New York...See Page 7
The "Boyer" Speed Recorder shows upon a chart the exact speed at which the train passed any point, the number and location of stops, the distance, speed and location of any backward movement that may have been made. A gauge in the cab in view of the engineer shows the number of miles per hour the locomotive is moving. The recorder can be placed in special car or caboose when desired
Esterline Co., Indianapolis, Ind.
Viesoring & Co., Harry, Chicago See Page 7

Recorders, Steam Engine

Crosby Steam Gage & Valve Co., Boston, Mass
Schaefer & Budenberg Mfg. Co., The, Berry & Co. Fifth Sts., Brooklyn, N. Y....Page 7

Recorders, Steam Pressure See Gauges, Recording, Pressure, Steam

Recorders, Sunshine

Fries & Sons, Julian P., E. Baltimore St. & Central Ave., Baltimore, Md . See Page 7

Recorders, Temperature

Stupakoff Laboratories, The, Pittsburgh, Pa.

Recorders, Test, Car

Burr Company, The, Champaign, Ill.

Recorders, Time See also Stamps, Time

Automatic Time Stamp Co., The, 160 Congress St., Boston, Mass. (Automatic.)
Brown District ment Co., Philadelphia, Pa.
Calculagraph Co., New York
Cincinnati Time Recorder Co., 1733-43 Central Ave., Cincinnati, O.....See Page 7
Cleveland Instrument Co., The, Cleveland, O
Follett Time Recording Co., 54 Barclay St., New York. .....See Advt Index, Page 7
The Follett Time Stamp is a device to keep tabs on production, letters, orders, telegrams, telephone calls, messengers, truckmen and arrivals and departures of all kinds. It gives a record in a straight line in plain figures, and records every minute of the night and day, automatically tripping the date at midnight.
It is all metal throughout, light, durably built and portable, the most economical and efficient of its kind on the market today, and we make a specialty of installing systems, making the machine adapt itself to almost any requirement
Howard Clock Co., The E., Boston, Mass
International Time Rec. Co. of N. Y., Endicott, N. Y
Simplex Time Recorder Co., Gardner, Mass.

Recorders, Time, Railway Switch Engine

Service Recorder Co., The, 710 Huron Road, Cleveland, O.
The Servis Recorder analyzes busy time and idle time of switch engines ...ives a printed twenty four hour chart Thousands in use by railroads today

Recorders, Time, Watchmen's See Clocks, Watchmen's

Recorders, Vehicle Movement

American Taximeter Co., New York.
Brown Traffiog Co., Cleveland, O.
Brown Spring Oiler Co., Cleveland, O.
Hoggson & Co., S. H., New York
Jones Speedometer Co., Brooklyn, N. Y.
Service Recorder Co., The, 710 Huron Road, Cleveland, O.
Records running time and idle time of any vehicle

Recorders, Water Level Also see Gauges, Water Level

Brown Instrument Co., Philadelphia, Pa.
Fries & Sons, Julian P., Baltimore St. & Central Ave., Baltimore, Md Page 7
Fries's water stage recorders (patented) for recording water levels continuously and automatically are extensively used with irrigation projects, water reservoirs, etc.
Lombard Governor Co., Ashland, Mass
Schaefer & Budenberg Mfg. Co., The, Berry & S. Fifth Sts., Brooklyn, N. Y. ..... See Advt. Index, Page 7

Successful Employers Use

CINCINNATI
TIME RECORDERS

"Count Every Minute"
"Make Every Minute Count"

BECAUSE they conserve the three most important factors in business—Labor, Dollars, Time.

BECAUSE they make the employee his own timekeeper and furnish a clear, indisputable record at no expense to the employer.

BECAUSE they promote Punctuality and Honesty, and create an improved morale in an organization.

BECAUSE they help Production by getting employees in On Time and reduce the overhead burden.

BECAUSE they save disputes, decrease clerical work, and increase the efficiency of both labor and management.

Write today, stating line of business and number of employees—that, too, saves time.

The Cincinnati Time Recorder Co.
Central Ave. Cincinnati, Ohio

Recorders, Weight

(Attachment for railroad track scales and coal mine scales.)
Streeter-Amet Weighing & Recording Co., Chicago

Recovery Systems, Acid

Knight, Maurice A., East Akron, O. (Sulphuric.) See Advt. Index, Page 7
Buffalo Pitts & Machine Co., Buffalo, N. Y

Rectifiers

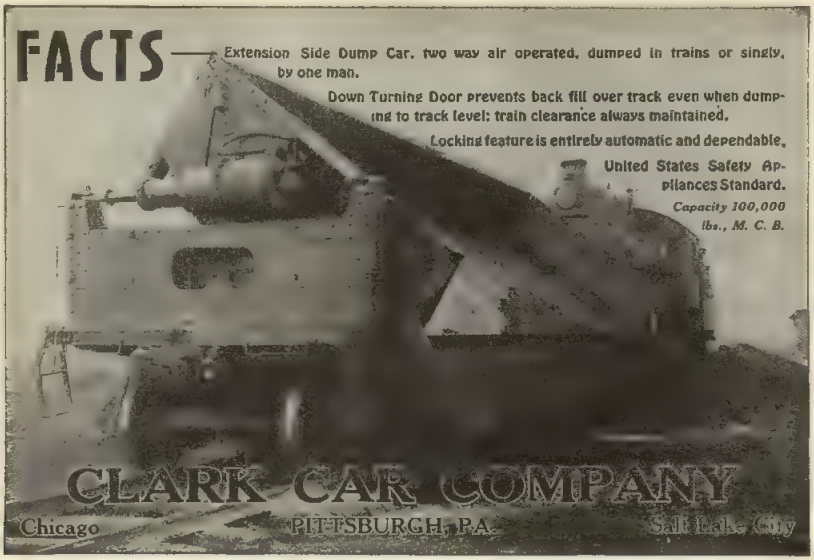
General Electric Co., Schenectady, N. Y. .....See Advt. Index, Page 7
Mercury arc rectifiers for operation of series luminous arc lamps, for home or public garage battery charging and for motion picture machine arc lamps.
Valley Electric Company, 3157 South Kingshighway, St. Louis, Mo.....See Page 7

Rectifiers, Alternating Current

American Battery Co., Chicago
Bryant Zinc Co., Chicago
Central Electric Company, 316-326 S. Wells St., Chicago.....See Advt. Index, Page 7
Electric Economy Co., Hyde Park, Mass.
Frances Mfg. Co., Cleveland, O.
General Electric Company, Schenectady, N. Y. .....See Advt. Index, Page 7
Kentucky Electrical Co., Owensboro, Ky.
Mohawk Electric Mfg. Co., Newark, N. J.
St. Louis Electric Works, St. Louis, Mo.
Standard Metal Mfg. Co., Newark, N. J.
Valley Electric Company, 3157 South Kingshighway, St. Louis, Mo .. See Page 7
Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa. .See Advt. Index, Page 7

Rectifiers, Tungar

(Devices for changing alternating current into direct current, consisting of rectifier tube, compensating reactance and regulating reactance)
Cooper-Hewitt Electric Co., Hoboken, N. J.
General Electric Co., Schenectady, N. Y. .....See Advt Index, Page 7
McIntosh Battery & Optical Co., Chicago
Valley Electric Company, 3157 South Kingshighway, St. Louis, Mo .. See Page 7
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa ..... See Advt. Index, Page 7


FACTS—
Extension Side Dump Car, two way air operated, dumped in trains or singly, by one man.
Down Turning Door prevents back fill over track even when dumping to track level; train clearance always maintained.
Locking feature is entirely automatic and dependable.
United States Safety Appliances Standard.
Capacity 100,000 lbs., M. C. B.
CLARK CAR COMPANY
Chicago
PITTSBURGH, PA.
Salt Lake City

yds.; 100,000 pound loads, A. R. A. rating. Equipped with all safety appliances required by the Interstate Commerce Commission. Universally accepted for interchange under load. Dumping is accomplished by compressed air working through telescoping cylinders mounted on each end of body and in that operation side of car arms down and out co-incident with tilting of body forming chute which permits discharge of anything that can be put into the car regardless of size of any one piece. Air comes from storage cans in car each car which is charged from locomotive through couplings. Pneumatic dumping system is completely separate from brake system. Average locomotive has sufficient air compressor capacity for usual conditions of operation. Car body is separate from underframe, carried on rockers set under side bolsters. It rolls to side in dumping and opens easily. A check to truck or car. Body is raised and secured so that when released from open position, it returns to closed position by gravity, locking automatically. In open position extended side protects trucks and trains from back fill and throws load beyond road clearance.

Dumping the car is accomplished by turning the handle of a control valve, one of which is located in end frame of each car. A train of cars may be dumped simultaneously from any one car, and any car in a train may be operated alone or may be cut out at will

Dewey Supply Corporation, 18 W. 34th St., New York.....See Advt. Index, Page 7

General American Car Co., Harris Trust Bldg., Chicago....See Advt. Index, Page 7

Exceptional facilities for prompt handling of orders for Hopper Bottom, all-steel Coal Cars. Also prepared to execute orders for specially designed cars for any purpose and any gauge.

Haskell & Barker Car Co., Inc., Michigan City, Ind

Koppel Industrial Car & Equipment Co., Koppel, Pa.....See Advt. Index, Page 7

Lakewood Engineering Co., The, Cleveland, O.....See Advt. Index, Page 7

Light Railway Equipment Co., Philadelphia, Pa.

Mt. Vernon Car Mfg. Co., Mt. Vernon, Ill. .....See Advt. Index, Page 7

Obenberger & Son Co., Jos., 125 Barclay St., Milwaukee, Wis. See Advt. Index, Page 7

Pacific Car & Foundry Co., 214 Alaska Bldg., Seattle, Wash.....See Page 7

Pressed Steel Car Co., Pittsburgh, Pa .....See Advt. Index, Page 7

Western Steel Car & Foundry Co., Pittsburgh, Pa.

Western Wheeled Scraper Co., Aurora, Ill.

Youngstown Steel Car Co., The, Niles, O. .....See Advt. Index, Page 7

Cars, Dynamometer

Burr Company, Champaign, Ill

Cars, Electric Railway

(Builders of all types of electric cars for street and interurban service.)

American Car & Foundry Co., St. Louis, Mo.

Atlas Car & Mfg. Company, The, 1140 Ivanhoe Rd., Cleveland, O.....See Page 7

Bradley Car Co., Osgood, Worcester, Mass. .....See Advt. Index, Page 7

Brill Co., The J. G., 62nd St. & Woodland Ave., Philadelphia, Pa.....See Page 7

Jewett Car Co., Newark, O

Laconia Car Co., Laconia, N. H.

Pressed Steel Car Co., Pittsburgh, Pa. .Page 7

Pullman Co., Chicago

St. Louis Car Co., St. Louis, Mo.

Western Steel Car & Foundry Co., Pittsburgh, Pa.

Cars, Electric, Storage Battery

Dewey Supply Corporation, 18 W. 34th St., New York.....See Advt. Index, Page 7

Railway Storage Battery Car Co., New York

Cars, Electric, Street Sprinkling

American Car & Foundry Co., St. Louis, Mo.

Brill Co., The J. G., 62nd St. & Woodland Ave., Philadelphia, Pa.....See Page 7

Cars, Electric, Street Sweeping

Brill Co., The J. G., 62nd St. & Woodland Ave., Philadelphia, Pa.....See Page 7

Kuhlman Car Co., G. C., Cleveland, O.

Cars, Elevator See Elevator Enclosures and Cabs

Cars, Foundry

American Car & Foundry Co., St. Louis, Mo.

Chase Foundry & Mfg. Co., Columbus, O.

Dewey Supply Corporation, 18 W. 34th St., New York.....See Advt. Index, Page 7

General American Car Co., Harris Trust Bldg., Chicago. See Advt. Index, Page 7

Maker of a specially designed car for safe and economical transportation of Hot Ingots.

Gerlach, H. W., Huntington, Pa

Hunt Co., Inc., C. W., West New Brighton, N. Y.

Kilbourne & Jacobs Mfg. Co., Columbus, O.

Lakewood Engineering Co., The, Cleveland, O.....See Advt. Index, Page 7

Light Railway Equip. Co., Philadelphia, Pa

Obenberger & Son Co., Jos., 125 Barclay St., Milwaukee, Wis. See Advt. Index, Page 7

Sackett Screen & Chute Co., H. B., Chicago

Scully-Jones & Co., 224 S. Michigan Ave., Chicago.....See Advt. Index, Page 7

United Iron Works Co., Kansas City, Mo.

Youngstown Steel Car Co., The, Niles, O. .....See Advt. Index, Page 7

Cars, Freight, Steel, Steam Railway

American Car & Foundry Co., St. Louis, Mo.

American Car & Foundry Company, 165 Broadway, New York.....See Page 7

Barney & Smith Car Co., Dayton, O

Batavia Car Works, Inc., Batavia, N. Y.

Beck & Babb, 29 S. La Salle St., Chicago. .....See Advt. Index, Page 7

Cambria Steel Co., Philadelphia, Pa

General American Car Co., Harris Trust Bldg., Chicago See Advt. Index, Page 7

Builder of Flat Cars, Gondolas, Hopper-bottom Coal Cars, Standard Coal Cars, Tank Cars, Industrial Cars, Narrow Gauge Cars. This company designs and builds standard steel cars and cars constructed on special lines for the particular needs of clients. Exceptional facilities are found in its three big plants at East Chicago, Ind., Warren, Ohio, and Sand Springs (near Tulsa), Okla., for prompt handling of orders for cars for unusual service of any kind as well as prompt delivery of standard cars. General American Tank Car Corporation's factories are thoroughly equipped for rapid repairs, either light or extensive. Building This company also builds all-steel under-frames for wood car upper structures.

Greenville Steel Car Co., Greenville, Pa.

Haskell & Barker Car Co., Inc., Michigan City, Ind

International Car Co., 1304 First National Bank Bldg., Chicago.....See Page 7

Inter-State Car Co., Massachusetts and Brightwood Aves., Indianapolis, Ind. .....See Advt. Index, Page 7

Mt. Vernon Car Mfg. Co., Mt. Vernon, Ill. .....See Advt. Index, Page 7

New, modern, up-to-date plant for building freight cars of all kinds and capacities. One hundred and fifty thousand car wheels per annum. Twenty thousand tons forging per annum. Ten thousand freight cars per annum. Prepared to make prompt quotations on all-steel or steel and wood or composite cars. Inquiries solicited. This company also manufactures mine cars, wheels and axles of all kinds; operates a cast iron wheel foundry, and is prepared to make all types of M. C. B. wheels for freight cars as well as special wheels for all classes of industrial cars.

Pacific Car & Foundry Co., 214 Alaska Bldg., Seattle, Wash.....See Page 7

Two well-equipped car building plants enable this company to fill your requirements quickly for all

Cars, Dump, Industrial

Allis-Chalmers Mfg. Co., Milwaukee, Wis
American Car & Foundry Co., St. Louis, Mo.
Atlas Car & Mfg. Company, The, 1112 Ivanhoe Rd., Cleveland, O. ..... See Page 7
Beck & Babb, 29 S. La Salle St., Chicago. ..... See Advt. Index, Page 7
Benjamin Equipment Co., Harry, 723-727 Central National Bank Bldg., St. Louis, Mo ..... See Advt. Index, Page 7
Brunner Fdry. & Machy. Co., Peru, Ill.
Carey, Geo. H., New York.
Clark Car Co., Oliver Bldg., Pittsburgh, Pa. ..... See Advt. Index, Page 7
Continental Car Company of America, Louisville, Ky.
Dewey Supply Corporation, 18 W. 34th St., New York. ..... See Advt. Index, Page 7
Duncan Fdrs. & Mach. Works, Alton, Ill.
Fochs Sons, Geo., Hoboken, N. J.
Foster Co., L. B., Park Bldg., Pittsburgh, Pa. ..... See Advt. Index, Page 7
Gehret Brothers, Inc., Bridgeport, Pa. ..... See Advt. Index, Page 7
General American Car Co., Harris Trust Bldg., Chicago See Advt. Index, Page 7
The ... a line of Hopper Bottom Coal Cars and Industrial Cars for standard or narrow gauge. It is prepared ... submit designs for cars for special purposes.
Gerlock ... W., Huntingdon, Pa
Haiss Mfg. Co. Inc., The Geo., New York.
Haskell & Barker Car Co., Inc., Michigan City, Ind.
Hubbard-Floyd Co., Inc., The, 1112 Grand Central Palace, New York. ... See Page 7
Hunt Co., Inc., C. W., West New Brighton, New York.
Kleinhans Company, H., Union Arcade, Pittsburgh, Pa ... See Advt. Index, Page 7
New and second hand. For sale or rent.
Koppel Industrial Car & Equipment Co., Koppel, Pa ... See Advt. Index, Page 7
Lakewood Engineering Co., The, Cleveland, O. ..... See Advt. Index, Page 7
Levis & Co., Henry, Philadelphia, Pa.
Light Railway Equipment Company, Philadelphia, Pa. ... See Advt. Index, Page 7
Link-Belt Co., Chicago and Philadelphia. See Advt. Index, Page 7
Machinery Sales Co., 904-938 S. Dearborn St., Chicago See Advt. Index, Page 7
Mt. Vernon Car Mfg. Co., Mt. Vernon, Ill. See Advt. Index, Page 7
Obenberger & Son Co., Jos., 125 Barclay St., Milwaukee, Wis. . See Advt. Index, Page 7
Narrow gauge ... cars for island ... any special capacity and built to meet special requirements for contractors or factory purpose. Also special built Factory trucks and trailers. Complete catalog sent on request.
Power & Mining Machinery Works, 115 Broadway, New York.
Pressed Steel Car Co., Pittsburgh, Pa ..... See Advt. Index, Page 7
Railway Specialties Corp., New York.
Scaife & Sons Co., W. B., Chicago
Sanford-Day Iron Works, Knoxville, Tenn.
Stuebner, Geo. L., Long Island City, N. Y.
United Iron Works Co., Kansas City, Mo.
West Distributing Co., 168 Washington St., New York See Advt. Index, Page 7
Western Steel Car & Foundry Co., Pittsburgh, Pa.
Western Wheeled Scraper Co., Aurora, Ill., ... See Advt. Index, Page 7
Whiting Corporation, Harvey, Ill. See Page 7
Worthington Pump and Machinery Corporation, 115 Broadway, New York. ..... See Advt. Index, Page 7
Youngstown Steel Car Co., The, Niles, O. ..... See Advt. Index, Page 7
Zeinicker Supply Co., Walter A., St. Louis, Mo.

Cars, Dump, Pneumatic, Steam Railway

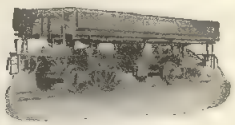
Center dump and side dump cars, operated by compressed air.
Beck & Babb, 29 S. La Salle St., Chicago. ..... See Advt. Index, Page 7
Clark Car Co., Oliver Bldg., Pittsburgh, Pa. ..... See Advt. Index, Page 7
Dewey Supply Corporation, 18 W. 34th St., New York. ..... See Advt. Index, Page 7
Easton Car & Construction Co., Easton, Pa.
Kleinhans Company, H., Union Arcade, Pittsburgh, Pa. ..... See Page 7
For sale or rent.
Koppel Industrial Car & Equipment Co., Koppel, Pa ... See Advt. Index, Page 7
Pressed Steel Car Co., Pittsburgh, Pa
Western Wheeled Scraper Co., Aurora, Ill. ..... See Advt. Index, Page 7
100,000 lbs. capacity or less. Air dump or hand dump. The most economically operated and durable car made. Inspection of cars in operation invited.

Cars, Dump, Side and Bottom

Beck & Babb, 29 S. La Salle St., Chicago. ..... See Advt. Index, Page 7
Clark Car Co., Oliver Bldg., Pittsburgh, Pa. ..... See Advt. Index, Page 7
Exclusion Side Dump Cars, all steel construction, level full capacity 30 cu. yds.; normal loading, 45

(Continued on following page)

CARS THAT PAY FOR THEMSELVES



We have solved the problem of high-class, dependable, automatic air dump cars for railroad track work—ditching, trestle-filling, yard construction, second track work, new construction, hauling coal for storage, hauling material for road work, hauling snow, hauling cinders and waste, etc.

The WESTERN AUTOMATIC COMPRESSION LOCK AIR DUMP CAR rides like a Pullman, instead of jerking along, stretching chains and pounding your track to pieces. Locks and unlocks automatically, saving time and labor on the dump. 34% greater dumping power, with no more air, than other makes.

12, 16, 20, 25, 30 and 45 cubic yard capacity

Send for our new Dump Car Catalog, No. B51

Western Wheeled Scraper Co.

Earth and Stone Moving Machinery

AURORA, ILLINOIS, U. S. A.

SERVICE

OUR SERVICE DEPARTMENT

is ready at all times to give information with reference to sources of supply for special material, etc.

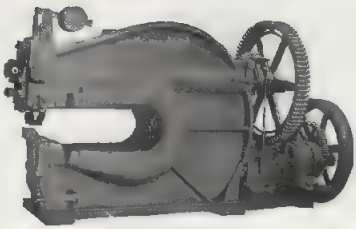
Ask us anything you want to know

MacRae's Blue Book

America's Greatest Buying Guide

18 East Huron St., Chicago, Ill.

SOLID STEEL



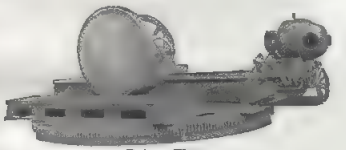
Vertical Open Gap Punch

Style	Punch	Shear Plate	Shear Bar	Angle
BA	¾x ¾ in.	¼ in.	4x ¼ in.	2x2x ⅛ in.
C	1¼x ¾ in.	⅓ in.	5x ⅓ in.	3x3x ⅜ in.
EP	1¾x1 in.	⅝ in.	6x1 in	4x4x ½ in.
G	2 x1 in.	1⅜ in.	8x1 in.	6x6x ⅝ in.
W	2½x1½ in.	1½ in.	10x1⅝ in.	8x8x ¾ in.
X	4 x1½ in.	2 in.	10x2½ in.	8x8x1⅛ in.
Z	6 x1½ in.	2½ in.	12x3 in.	8x8x1½ in.

Also I-Beam Punching and Coping Machines. Write for Bulletin.

Bending Roll

No. 0	of ⅜" or equiv.	No. 3C	10' of 1 " or equiv.
No. 1	10' of ½" or equiv.	No. 4A	16' of ¾" or equiv.
No. 2	8' of ⅝" or equiv.	No. 4B	10' of 1¼" or equiv.
No. 3A	10' of ¾ or equiv.	No. 5	18' of 1 " or equiv.
No. 3B	14' of ⅞ or equiv.	Distance between housings to suit requirements.	



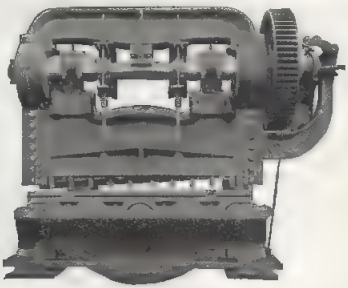
Rotary Planer

Cleveland Rotary Planers are furnished for a variety of work and can be arranged with 30", 36", 50" or 60" diameter cutter head. We shall be glad to give you complete details concerning these machines.

Horizontal Punch

Style	Capacity
R	Punching ½-in. hole through ¾-in. material
T	Punching 1 -in. hole through 1-in. material
AI	Punching 1¼-in. hole through 1-in. material
S	Punching 1¾-in. hole through 1-in. material
H	Punching 2-in. hole through 1-in. material

Write for Bulletin.



Gate Shear

No. 0	4' of ¾" or equiv.	
No. 1	10' of ½" or equiv.	
No. 2	10' of ⅝" or equiv.	Distance between housings to suit requirements.
No. 4	5' of 1 " or equiv.	
No. 5	5' of 1¼" or equiv.	
No. 6	7' of 1¾" or equiv.	

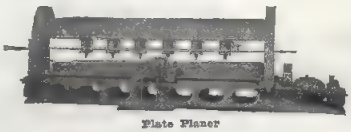


Plate Planer

Cleveland Plate Planers are built in three types, the maximum distance between housings being governed by the capacity of the machine. Write for further information and our bulletin on Plate Planers.

THE CLEVELAND PUNCH & SHEAR WORKS CO.

Main Office & Works · CLEVELAND, OHIO

PITTSBURGH – CHICAGO – PHILADELPHIA – NEW YORK

COBURN ROLLING LADDERS

FACING SHELVES
STYLE No. 1

Fig. 27183A

CEILING
STYLE No. 9

Fig. 27183B

FACING SHELVES

These ladders can be attached either to the shelves or cornices

Price	Hard Pine Straight Slant Ladder, with Solid Sides, Complete	18 00
"	Oak Straight Slant Ladder, with Solid Sides, Complete	22 00
"	Extra for Either Pine or Oak Ladder, with Bent Sides	2.00
"	Wood Pole Track, Including Brackets .... per foot	.30

CEILING

Price,	Hard Pine Ladder, Complete	20.00
"	Oak Ladder, Complete	24.00
"	No 1 Trolley Track, Including Brackets .... per foot	.30
"	" 1 Curved Trolley Track, Including Brackets. .... "	1.00

Write us Your Requirements for Goods Not Listed.

For Nearly a Century the Store of Service.

STEP LADDERS

PARIS STEP LADDERS

Fig. 33455A

These ladders are of extra good quality and are made in two styles. The steps are made of straight grained Eastern basswood. The back stands are straight grained clear Eastern spruce. The steps are of white basswood or pine. The ladders are made in lengths from 3 to 10 feet and all lengths have pail shelves. Weight, $3\frac{1}{4}$ pounds per step. Tied two in a package.

Prices upon application.

CHALLENGER STEP LADDERS

Every step of this ladder is bolted on, clamped in such a manner as to make a break almost an impossibility. Straight, straight grained second growth white ash is used for the front stands and steps. The back steps are made of clear Eastern spruce, the same stock used so extensively in the plates on account of its lightness and strength, while the steps are made of white basswood. The superior merits of this ladder are shown by the constantly increasing demand, especially for the longer lengths.

The Challenger is made in lengths from 3 to 15 feet. Weight $3\frac{1}{4}$ pounds per step. All fitted with pail shelves. Lengths from 3 to 9 feet, tied two in a package, 10 to 15 feet tied singly.

Prices upon application.

For Nearly a Century the Store of Service.

WRENCHES

SOLID HANDLE

Fig. 17735A

We are pleased to commend this solid handle wrench as comprising the essential features of a perfect screw wrench. Its strength is unquestioned. It has been received with great favor, both by mechanics and the trade

The head, bar shoulder, and handle frame being forged solid of one piece and case hardened insures uniform strength and overcomes the weak point in most screw wrenches, which are liable to break at a point on the bar opposite the knurled thumb screw. In appearance the wrench is most attractive

Every wrench is fully warranted.

Length Inches	Price Per Dozen Black	Bright	Length Inches	Price Per Dozen Black	Bright
6	15.00	.....	15	38.00	....
8	18.00	.....	18	48.00	.
10	22.00	.....	21	58.00	. ..
12	28.00				..

KNIFE HANDLE

Fig. 17735B

An improvement of nearly every feature of the first and original type of knife handle wrench.

No feature in this wrench is used in the imitations, and each exclusive feature of handle and construction is the result of experiment and test. All goods are subject to eleven inspections before assembling. Sixteen inspections in all

The handle is a cast semi-steel frame with hardwood sides.

Length Inches	Price Per Dozen Black	Bright	Length Inches	Price Per Dozen Black	Bright
6	15 00	...	15	38 00	.. .
8	18.00	....	18	48 00	...
10	22 00		21	58 00	.. .
12	28 00	.	.	. ..	....

STEEL HANDLE

Fig. 17735C

Made for use in extra difficult service and in exposed places where heat or damp would injure a wood handle.

Purposely made heavier for this duty and for special adaptation to railroad work. Same inspection as knife handle.

The bar is steel, fully hardened and cold swaged. The jaw is extra heavy, semi-steel and hardened. The screw is steel and in the ball bearing size, with polished and hardened ball race.

Length Inches	Price, Black per Dozen	Length Inches	Price, Black per Dozen
6	15 00	15	38.00
8	18 00	18	48 00
10	22.00	21	58.00
12	28.00		

Sizes 12 to 21 inches are ball bearing

KEY MODEL

Fig. 17735D

Designed to fill the gap between the 21 inch and the heavy spanner wrench for large work. It will not batter and jam a large nut as will a chain wrench. Made of heavy steel forgings, fully hardened

It will not slip or make trouble and will take anything within its capacity, no matter whether square or hexagon. The key cannot come off and the two positions for jaw straps assure its going into corners without trouble. Warranted free from mechanical defects

Length Inches	Price, Black Each	Length Inches	Price, Black Each
28	18.00	48	84.00
36	36.00	72	.....

WRENCHES

TRIMO MONKEY WRENCHES

Fig. 39531A

Made in regular and narrow style (narrow in 12-inch size only). Specify style and size desired.

REGULAR SEMI-BRIGHT

Size	inches	6	8	10	15	18	2
Capacity, (Size, Nut)	"	⅝	1⅝	1⅞	2	2¼	3
Price	per dozen	15 00	18.00	22 00	38 00	48 00	58 00

NARROW SEMI-BRIGHT

Price, 12-inch only	per dozen						28.00

WESTCOTT ADJUSTABLE—S

HANDLE MALLEABLE IRON, JAW FORGED STEEL

ADJUSTABLE S NUT

Fig. 39531B

ADJUSTABLE S PIPE

Fig. 39531C

Size	inches	6	8	10	12	14
S Nut Wrenches	"	⅝	1	1⅜	1⅝	2
S Pipe Wrench Takes Pipe	"	¼ to ⅝	⅜ to ¾	½ to 1	¾ to 1¼	1 to 1½
Price, Nut Jaws	each	20	30	40	50	60
" Pipe "	"	.25	.35	45	55	.65
" Pin screws	"	.10	.15	.20	25	30
" Pins	"	05	05	05	05	.05
" Adj S Nut Wrenches	per doz.	8.00	10 00	12 00	18 00	24 00
" " " Pipe "	"	8.00	10.00	12.00	18.00	24.00

WILLIAM'S BULLDOG WRENCHES

No. 1

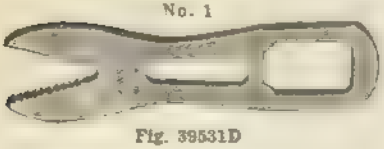


Fig. 39531D

Nos. 3 AND 4

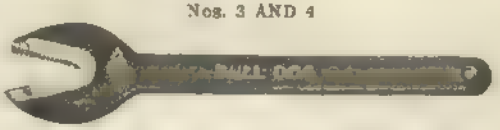


Fig. 39531E

Size	Pocket	No. 1	No. 2	No. 3	No. 4	No. 5	Twin
Length inches	4	5¾	9	16	22	27	10
Holds Pipe "	¼ to ⅜	¼ to ½	⅜ to ¾	¾ to 1¼	1¼ to 2	2 to 3	¼ to ¾
" Round Iron "	¼ " ⅝	¼ " ⅝	¼ " 1	¾ " 1⅜	1⅜ " 2½	2½ " 3½	¼ " 1
Price per dozen	3.00	4.00	12.00	24.00	36.00	60 00	18.00

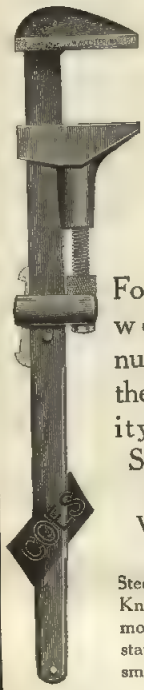
Write us Your Requirements for Goods Not Listed.

Established 1840

Coes Wrenches

FOR

Railway Duty



Key Model in
4 Sizes
28"-36"
48" and 72"

For heavy work on nuts above the capacity of the Standard Screw Wrench

Steel Handle and Knife Handle models for all standard duty in small sizes.

6 to 21"

Inquire of Your Nearest Jobber or Write

Coes Wrench Co.

Worcester, Mass.

Wrenches, Key

Coes Wrench Co., Worcester, Mass.....Page 7

Wrenches, Locomotive

Alert Tool Company, Philadelphia, Pa.
Billings & Spencer Co., Hartford, Conn.
Coes Wrench Co., Worcester, Mass.
Verona Tool Works, Pittsburgh, Pa.
Williams & Co., J. H., 62 Richards St., Brooklyn, N. Y. (Drop Forged) See Page 7

Wrenches, Machinists' Knife Handle

Coes Wrench Company, Worcester, Mass.
Lakeside Forge Co., Erie, Pa.
Williams & Co., J. H., 62 Richards St., Brooklyn, N. Y. (Drop-Forged).
.....See Advt. Index, Page 7
Williams, William E., New York.

Wrenches, Monkey

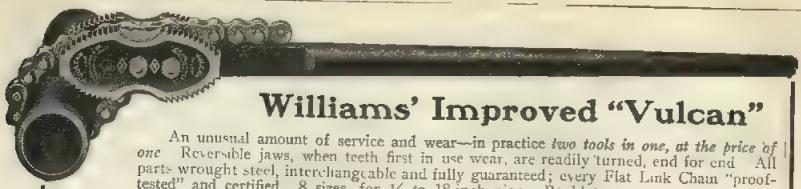
(Wrench adjustable to various sizes of nuts)
Bemis & Call Hdw. & Tl. Co., Springfield, Mass.
Cody, Paul C., New York.
Coes Wrench Co., Worcester, Mass.... Page 7
This concern has manufactured screw wrenches (monkey wrenches) on the original model patented by its founder, Loring Coes, since 1841. From its inception it has grown in 77 years to be the largest house in the world making screw wrenches exclusively. The output is now well over a million per year, which means five complete wrenches each minute of the working day. Each wrench has 16 inspections before shipping.
There are sizes from 6 inches to 72 inches for every duty, and in styles for indoor and outdoor work, under trying conditions. Every wrench is fully guaranteed against imperfections in material or construction and this warranty is universal.
Dewey Supply Corporation, 18 W. 34th St., New York.....See Advt. Index, Page 7
Gladium Company, The, New York
Grifix-Bassett, Inc., 242-244 Lafayette St., New York.....See Advt. Index, Page 7
We specialize in this particular product. Let us bid on your requirements. Our Motto is SERVICE, NOT PROMISES.
Hansen & Yorke Co., Inc., 89 Warren St., New York.....See Advt. Index, Page 7
Helwig Mfg. Co., St. Paul, Minn
Hemphill Co., Inc., A. J., New York.
Larco Wrench & Mfg. Corp., Chicago.
Meadville Wrench Co., Meadville, Pa.
Mooney, Douglas & Pearson, 193 Greenwich St., New York...See Advt. Index, Page 7
We specialize in this particular line. Let us bid on your requirements. Prompt service rendered.
Smith & Co., H. D., Plantsville, Conn.
Standard Supply & Hardware Co., Inc., New Orleans, La.
Trimont Mfg. Co., Roxbury (Boston), Mass.
Williams, William E., New York
Woodward, Wight & Co., Ltd., New Orleans.

Wrenches, Nut

Alert Tool Company, Philadelphia, Pa.
Armstrong Bros. Tool Co., 317-357 N. Francisco Ave., Chicago.....See Page 7
Bemis & Call Hdw. & Tool Co., Springfield, Mass.
Billings & Spencer Co., Hartford, Conn.
Bonney Vise & Tool Works, Allentown, Pa.
Coes Wrench Co., Worcester, Mass. Page 7
Dewey Supply Corporation, 18 W. 34th St., New York.....See Advt. Index, Page 7
Erie Tool Works, The, Erie, Pa.
Hawkeye Wrench Co., Marshalltown, Iowa.
Keystone Manufacturing Co., The, 60 Chandler St., Buffalo, N. Y.....See Page 7
Lakeside Forge Co., Erie, Pa.....See Page 7
Lowell Wrench Co., 54 Commercial St., Worcester, Mass. See Advt. Index, Page 7
Smith & Co., H. D., Plantsville, Conn.
Standard Supply & Hardware Co., Inc., New Orleans, La.
Trimont Mfg. Co., Roxbury (Boston), Mass.
Verona Tool Works, Pittsburgh, Pa.
Wakefield, C. E., Worcester, Mass.
Williams & Co., J. H., 62 Richards St., Brooklyn, N. Y. (Drop Forged).....Page 7
Worcester Pressed Steel Co., Worcester, Mass

Wrenches, Pipe

Armstrong Mfg. Co., The, 343 Knowlton St., Bridgeport, Conn. See Advt. Index, Page 7
Beck & Corbitt Iron Co., 1232-1244 Main St., St. Louis, Mo.... See Advt. Index, Page 7
Bemis & Call Hdw. & Tool Co., Springfield, Mass.
Billings & Spencer Co., Hartford, Conn.
Bryant Zinc Co., Chicago
Chicago Ry. Signal & Supply Co., Chicago.
Clow & Sons, James B., Chicago
Cochran Mfg. & Forging Co. (now Larco Wrench & Mfg. Corp.), Chicago.
Crane Company, 836 S. Michigan Ave., Chicago.....See Advt. Index, Page 7
Dewey Supply Corporation, 18 W. 34th St., New York.....See Advt. Index, Page 7
Drop Forging Co. of N. Y., Jersey City, N. J
DuBois Co., Inc., The F. N., New York.



Williams' Improved "Vulcan"

An unusual amount of service and wear—in practice *two tools in one, at the price of one* Reversible jaws, when teeth first in use wear, are readily turned, end for end All parts wrought steel, interchangeable and fully guaranteed; every Flat Link Chain "proof-tested" and certified. 8 sizes, for ⅛ to 18-inch pipe. Booklet on request.

J. H. Williams & Co. **"The Wrench People"**

62 Richard St., Brooklyn, N. Y. 62 Vulcan St., Buffalo, N. Y. 62 So. Clinton St, Chicago, Ill.
ST. CATHARINES. ONT., CANADA

Channon Company, H., 121 N. Market St., Chicago.

Coes Wrench Co., Worcester, Mass. Page 7

Dewey Supply Corporation, 19 W. 34th St., New York See Advt. Index, Page 7

Griffin-Bassett, Inc., 242-244 Lafayette St., New York See Advt. Index, Page 7
We specialize in Expansion Reamers. Let us bid on your requirements. Our Motto is SERVICE NOT PROMISES.

Hansen & Yorke Co., Inc., 89 Warren St., New York .....See Advt. Index, Page 7

Harris & Reed Manufacturing Co., 1512 W. Fifteenth St., Chicago. (Steel Tempered.)

Lakeside Forge Co., Erie, Pa...... See Page 7
We specialize in Fencers' and Machinists Wrenches, our open and double end wrench. Likewise our single and double head, and heavy weights meeting with universal approval. Catalog explaining our products, on request

Lowell Wrench Co., 54 Commercial St., Worcester, Mass..See Advt. Index, Page 7

MoMaster-Carr Supply Co., Chicago.

Mooney, Douglas & Pearson, 193 Greenwich St., New York See Advt. Index, Page 7
We manufacture this particular line to meet your requirements. Prompt service rendered

Southern Hardware & Supply Co., St. Louis, Mo. See Advt. Index, Page 7

Standard Screw & Hexagon Co., Inc. New Orleans, La.

Walworth Mfg. Co., Boston, Mass

Williams & Co., J. H., 62 Richards St., Brooklyn, N. Y. (Drop Forged) Page 7

Williams, William E., New York.

Woodward, Wight & Co., Ltd., New Orleans, La.

Wrenches, Heavy and Light Service

Armstrong Bros. Tool Co., 317-357 N Francisco Ave., Chicago .See Page 7

Champion, Pratt & Whitney Co., Meadville, Pa.

Coes Wrench Company, Worcester Mass.

Lakeside Forge Co., Erie, Pa.

Williams & Co., J. H., 62 Richards St., Brooklyn, N. Y. (Drop-Forged.) ..... See Advt. Index, Page 7

Williams, William E., New York.

Wrenches, Hexagon

Walworth Mfg. Co., Boston, Mass. See Page 7
The Walco Adjustable Hex Wrench was designed primarily for use on finished hexagon surfaces such as stuffing box nuts, valve bonnets, unions, plumbing fixtures, etc. The jaw and handles are drop forged from high grade tool steel. The frames are malleable iron. This wrench will not mar finished surfaces nor round the corners. No. 0 takes hexagons ⅜ to 1" across the flats, No. 1 takes hexagons ⅝ to 1⅞" ditto, No. 2 takes hexagons 1 to 2⅝" ditto

Williams & Co., J. H., 62 Richards St., ... See Advt. Index, Page 7
Williams, William E. New York

Wrenches, Hydrant

Chapman Valve Mfg Co., Indian Orchard, Mass.

Clow & Sons, James B., Chicago

Hayward & Co. S. F., New York

Morse & Son, A. J., Boston, Mass

Williams & Co., J. H., 62 Richards St., Brooklyn, N. Y. (Drop Forged) See Page 7

Foreign Opportunities

THE devastated area of Europe must be rebuilt. Cities must be restored; factories must be re-erected; highways, churches, schools, everything that is common to our modern civilization, must be restored in a vast territory.

The United States will supply much of the raw material and the manufactured products. Foreign buyers are not acquainted with American manufacturers who have heretofore sold only for home consumption. It is a costly experiment to maintain a foreign selling agency. How then to get in touch with the foreign buyers?

The answer is "Through MacRae's Blue Book"

Hundreds of copies of MacRae's Blue Book are placed in foreign fields, among the men who buy and specify. Through this service can the American manufacturer keep in touch with the consumer in Europe

"QUICK-LITE" COLEMAN FAMOUS GASOLINE LAMPS

The perfectly safe generating gas lamps for gasoline and kerosene. These lamps have been favorably passed by the National Board of Fire Underwriters, covered by their report O-479 dated Sept. 9, 1919. The line consists of portable lamps, wall lamps and lanterns. You can build a worth while business by featuring these numbers.

COLEMAN'S "QUICK-LITE" GASOLINE PORTABLE LAMPS

Light with common match, give 300 c. p. light, brass fonts hold 2 pts. gasoline and burn 12 hours, all brass parts nickel plated, removable filler plug. Complete with shade, mantle, pump, wrench hanger, cleaner pick and extra generator.

Rib Shade—Ht. 23 in., 10 in., opal ribbed shade
2C8835—1 in carton, 9 lbs. Each, $6.25

Embossed Shade—Ht. 23 in., 10 in. opal embossed shade
2C8896—1 in carton, 10 lbs. Each, $6.25

Frosted Globe "Bug-Proof"—Ht. 23 in., 10 in. shade, frosted transparent nickeled screen for top
2C8845—1 in carton, 10 lbs. Each, $6.60

Decorated Shade—Ht. 19 in., 10 in. opal shade decorated in brown and tan
2C8833—1 in carton, 11 lbs. Each, $7.00

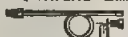
"QUICK-LITE" LANTERN

No alcohol torch needed. Lights with common match. Burns 15 hours without refilling.

STAR VALUE

2C8830—Ht. 14 in., pail (including bail), burn holds 2 pts. burns 15 hrs. on one filling, gives 300 c. p. and is guaranteed to burn in any wind. Complete with mantles, pump, wrench, cleaner pick and extra generator. 1 in carton. 6 lbs. Each, $5.25

GENERATOR FOR "QUICK-LITE" LAMPS



2C9343 For Coleman's Quick-Lite lamps, lanterns or chandeliers. Solid brass, complete with tip cleaner. ½ doz. in pkg. Doz. $3.60

"COLEMAN" MANTLE

For "Quick-Lite" lamps and lanterns.

2C9735 — 2¼ in., No. 50 Extra long fiber cotton, non-shrinkable bottom. 6 in asbestos. 1 doz. in pkg. Doz. 84c
10 dz. lots, Drs. 79c

COLEMAN'S "QUICK-LITE" CHANDELIERS

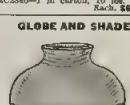
Light with a match.

Ht. 27 in., 2 separate burners, 300 c. p. each burner, or 600 c. p. combination, both 18 gauge nickeled brass generators for ½ pint of gasoline burns 12 to 16 hrs. heavy cast body piece encased in ¼ in. brass tubing nickel plated fittings. Complete with shades, mantles, etc. 2 extra generators. 1 in carton.

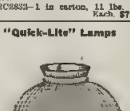
2C8534 — With ribbed shade. 18 lbs. Each, $12.00

2C8544 — With frosted globe. 16 lbs. Each, $12.75

GLOBE AND SHADE—For "Quick-Lite" Lamps



2C8793—9 in. globe, blown crystal, frosted and clear outside and polished inside. 4 in pkg. Each, $1.50. 1 doz. lots, Doz. 16.20



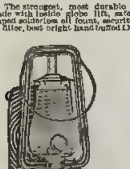
2C8969—10 in. shade, ribbed, opal, extra quality. Fits nickel center draft lamps. ½ doz. in pkg. Doz. 10.35

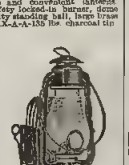
LANTERNS STORE LAMPS

Your trade will be quick to appreciate the merit of this line. Every store can profitably handle the items shown here. Make your selection from this page and be assured of getting the best prices the market has to offer. Do not wait. Send in your order now.

EMBURY TUBULAR COLD BLAST LANTERNS

The strongest, most durable and convenient lanterns. Made with inside globe lift, safety locked-in burner, dome shaped solderless all round, security standing ball, large brass oil filler, bead bright hand buffed IX-A-A-135 lb. charcoal tin





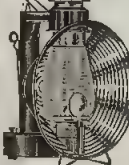
Stable or Bushhood—No. 0, ht. 13½ in., mounted red, separate bullseye lens, portable use with ordinary globe, corrugated tin reflector, burns 20 hrs.
2C9270—½ doz. in case, 19 lbs. Doz. $12.95

"Midget"—Driving style, No. 0 burner, ht. 13 in., Junior O. B. globe, ½ in. wick, separate bullseye lens, burns 25 hrs., complete with bracket.
2C9869—1 in carton. Each, $1.65
Lots of 10, " .85

"Windsor"—Whirlproof. No. 2 rising cone burner, 1 in. wick, ht. 15 in., 10 c. p. burns 53 hours.
2C9262—½ doz. in case, wt. 30 lbs. Doz. $12.25

"Supreme"—Windproof, short globe, No. 2 rising cone burner, 1 in. wick, ht. 14 in., 10 c. p., ½ gal. capacity, 24 hrs. standard size fount, bonnet shape, 80 abc.
Doz. $11.50
2C9277—Extra large fount, burns 48 hrs., 30 lbs. Doz. $13.25

EMBURY "SEARCHLIGHT" TUBULAR LANTERN



2C9279—No. 2 cold blast, ht. 14½ in., enameled red, inside globe lift, safety locked-in burner, cone shaped solderless all round, security standing ball, large brass oil filler, best bright hand buffed IX-A-A-135 lb. charcoal tin, separate bullseye lens, powerful reflector. 50 c. p., burns 36 hrs. 1 in case, 7 lbs. Each, $2.50

DIETZ DRIVING LAMP

Ht. 7½ in., patent wing lock burner, 3 in. flash front lens, 2 ruby rear lenses, removable burner, 10 hrs., clamp holder with each. For left hand side.
2C3761—1 in carton Each, $1.55
2C3761P—12 in case 1.50
(Total $18.00)

STORE OIL LAMPS

"Royal"—Fount ht. 38 in., turned 15 in. 5 in. solid brass mount. No. 2 Royal center draft burner, all drip tray, 15 in. outbound tin shade, smoke bell wick and 2C 2512 chimney.
2C 2936 W—1 in box, 19 lbs. Each, $3.35

POST STREET LAMP

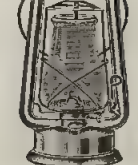
Can be adjusted to burn a given number of hours. A far reaching street lamp with a steady light—absolutely windproof may be filled, regulated and lighted without removing the globe.

2C2980—Cold blast tin, 26 in., heavy green enameled tin. No. 5 burner, 3½ in. wick. No. 9 globe. 1 in case, 20 lbs. Each, $5.25

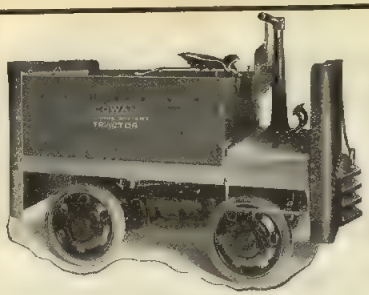
"Plymouth"—Ht. 83 in., spread 17½ in., fount circular 17½ in., burner wick 1¾ in., collar, smoke bell and shade. Case 2C 2536 No. 0 (2 improved chimney) 1 in case, 50 lbs.
2C 2939—Solid brass with 20 in. tin shade. Temp. Oak
2C9294—Nickel plated with 14 in. opal dome shade. Each, $7.50

EMBURY TUBULAR LANTERNS

The strongest, most durable and convenient lantern. One of our best sellers.



"Supreme" No. 0 globe, No. 1 burner, ½ in. wick, ht. 15¼ in., burns 50 hrs., made with inside globe lift, safety locked-in burner, cone shaped solderless all round, security standing ball, large brass oil filler, best bright hand buffed IX-A-A-135 lb. charcoal tin.
2C2967—1 doz. in case, 20 lbs. Doz. $8.25
2C2968—½ doz. in case, 18 lbs. Doz. 8.50



COWAN
Electric Industrial Tractor

A powerful, dependable tractor of 20,000 lbs. guaranteed tractor load capacity. The same perfection of design, sturdy construction and skilled workmanship as in all Cowan products.

Danger, fool and meddler-proof on account of distinctive Cowan safety features. Practically indestructible with the worst abuse. Very simple to operate.

End-control, four-wheel drive, four-wheel steer. Ample ground clearance. Will operate in intersecting aisles 66 inches wide. FOUR speeds forward, four reverse, up to 7 miles per hour.

All wheels interchangeable, all parts readily accessible.

Write for Descriptive Bulletin.

COWAN TRUCK COMPANY
HOLYOKE, MASS.

Branches in all Principal Cities of the World.

See COWAN Hand and Electric Self-Loading Trucks

MacRae's Blue Book produces hundreds of inquiries and orders each day for the **2000 concerns** using it to increase their sales.

We can increase yours.

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BLUE BOOK
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Tractors, Electric

(For hauling trailers at Railroad, Warehouse, Dock or Factory.)

Automatic Transportation Co., The, 2937 Main St., Buffalo, N. Y. ..... **See Page 7**

Certes Supply Co., 737 Frisco Bldg., St. Louis, Mo. ..... **See Advt. Index, Page 7**

Cowan Truck Company, Holyoke, Mass. ..... **See Advt. Index, Page 7**

Dewey Supply Corporation, 18 W. 34th St., New York ..... **See Advt. Index, Page 7**

Elwell-Parker Electric Co. The, 4100 St. Clair Ave, Cleveland, O. ..... **See Page 7**

Lakewood Engineering Co., The, Cleveland, Ohio ..... **See Advt. Index, Page 7**

Lansing Company, The, 313 N. Cedar St., Lansing, Mich.

Mercury Manufacturing Company, 4118 S. Halsted St., Chicago.

Transportation Engineering Corp., New York.
Walker Vehicle Company, Chicago.

Tractors, Farm

Advance-Rumely Thresher Co., La Porte, Ind.
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
American Tractor Co., Des Moines, Ia.
Andrews Tractor Co., Minneapolis, Minn.

Austin Machinery Corporation, 809 Railway Exchange, Chicago ..... **See Page 7**

The Austin Multipedal Farm Tractor is made in three sizes, 15-30, 20-40 and 75-120. Operated by internal combustion engine made to burn gasoline or kerosene. We also make a 15-30 wheel tractor.

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Case Plow Wks., J. I., Racine, Wis.
Commonwealth Motors Co., Chicago.

Dayton-Dowd Co., Quincy, Ill.

Deere & Co., Moline, Ill.

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Emerson-Brantingham Co., Rockford, Ill.
Famous Mfg. Co., East Chicago, Ind.
Four Drive Tractor Co., Big Rapids, Mich.
General Ordnance Co., Inc., New York.
General Motors Corp., Detroit, Mich.
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Graham Bros., Evansville, Ind.
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Huber Mfg. Co., Marion, O.
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Joliet Oil Tractor Co., Joliet, Ill.
Line-Drive Tractor, Inc., Milwaukee, Wis.
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New Britain Machine Co., New Britain, Conn.
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Oldsmar Tractor Co., Oldsmar, Fla.

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Four-wheel, four cylinder, two speed, 12-25 Farm Tractor.

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Peoria Tractor Co., Peoria, Ill.
Pt. Huron Eng. & Thresher Co., Pt. Huron, Mich.
Square Turn Tractor Co., Norfolk, Nebr.
Stinson Tractor Co., Superior, Wis.
Townsend Mfg. Co., Janesville, Wis.
Traylor Engineering & Mfg. Co., Allentown, Pa.
Turner Mfg. Co., The, Port Washington, Wis.
Velie Motors Corp., Moline, Ill.
Waterloo Gasoline Engine Co., Waterloo, Ia.
Yuba Mfg. Co., Marysville, Calif.

Tractors, Garden

Baines Engineering Co., The, Canal Dover, O.
New Britain Machine Company, The, New Britain, Conn.

Tractors, Gasoline

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Avery Company, Peoria, Ill.
Bean Spray Pump Co., San Jose, Cal.
Buffalo Pitts Co., Buffalo, N. Y.
Bull Tractor-Madison Motors Corp., Anderson, Ind.
Dauch Mfg. Co., Sandusky, O.

Dayton-Dowd Co., Quincy, Ill.

Dewey Supply Corporation, 18 W. 34th St., New York ..... **See Advt. Index, Page 7**

Equitable Corporation of America, Chicago.
Garford Motor Truck Co., Lima, O.

Granger Co., A. D., 15 Park Row, New York.

The most comprehensive line for large acreage, small farms and estates and small lawns and gardens.

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Knox Motors Associates, Springfield, Mass.

Mercury Manufacturing Company, 4118 S. Halsted St., Chicago.

New Britain Machine Co., New Britain, Conn.
Oliver Tractor Co., The, Knoxville, Tenn.
Reading Engineering Co., Inc., New York.
Samson Sieve-Grip Tractor Co., Stockton, Cal.
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Towmotor Company, The, 1226 E. 152nd St., Cleveland, O. ..... **See Advt. Index, Page 7**

The Towmotor complete is a rugged, all steel machine, built of the highest grade standard units, and able to withstand much hard use and abuse.

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Towmotor Company, The, 1226 E. 152nd St., Cleveland, O. See Advt. Index, Page 7
Wood Company, Guilford S., Chicago.

Trucks, Gasoline, for Railroad Platform, Dock and Factory
Standard Scale & Sup. Co., The, Pittsburgh, Pa.

Trucks, Hand See Trucks, Railroad Platform, Warehouse and Factory

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Elwell-Parker Electric Co., The, 4100 St. Clair Ave., Cleveland, O.... .See Page 7
A complete line makes a proper selection of truck best suited for the work, easy
Industrial Truck Co., branch Cowan Truck Company, Holyoke Mass
Lakewood Engineering Co., The, Cleveland, Ohio See Advt. Index, Page 7
Lansing Company, The, 313 N. Cedar St., Lansing, Mich. ...See Advt. Index, Page 7
Steinmetz Electric Motor Car Corp., Baltimore, Md.
Transportation Engineering Corp., New York.
Yale & Towne Mfg. Co., The, Stamford, Conn. .....See Advt. Index, Page 7

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Clark Tractor Co., Buchanan, Mich.
Standard Scale & Sup. Co., The, Pittsburgh, Pa.
Towmotor Company, The, 1226 E. 152nd St., Cleveland, O.... .See Advt. Index, Page 7

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Gerlock, H. W., Huntingdon, Pa.
Sackett Screen & Chute Co., H. B., Chicago.
Sterling Wheelbarrow Co., 64th and Pullen Aves., Milwaukee, Wis See Page 7
Towmotor Company, The, 1226 E. 152nd St., Cleveland, O.... .See Advt. Index, Page 7

Trucks, Laundry
National Fibre & Insulation Co., Yorklyn, Station, Del.

Trucks, Lift
Automatic Transportation Co., The, 2837 Main St., Buffalo, N. Y.
Barrett Cravens Co., Chicago.
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Howe Chain Co., Muskegon, Mich.
Lewis-Shepard Company, Boston, Mass
Service Caster & Truck Co., Kansas City, Mo.
Stuebing Truck Co., The, Cincinnati, O.
Transmission Ball Bearing Co., Inc., The, 1051 Military Road, Buffalo, N. Y....See Page 7

Trucks, Lift, Electric
Automatic Transportation Co., The, 2837 Main St., Buffalo, N. Y.
Elwell-Parker Electric Co., The, 4100 St. Clair Ave., Cleveland, O.....See Page 7
A complete line makes a proper selection of truck best suited for the work easy
Transportation Engineering Corp. New York

Trucks, Logging and Lumber
Clark Co., Geo. P., Windsor Locks, Conn.
Dewey Supply Corporation, 18 W. 34th St., New York See Advt. Index, Page 7
Electric Wheel Company, Quincy, Ill. Page 7
A truck for every lumber mill requirement, hand power, team power, or traction, up to 20-ton capacity. Ask for special catalog.
Empire Mfg. Co., Quincy, Ill.
Georgia Car & Locomotive Co., Ridge Ave. & Southern Ry., Atlanta, Ga Page 7
Gerlock, H. W., Huntingdon, Pa.
Gillette Roller Bearing Co., Grand Rapids, Mich.
Helmick Fdry. & Mach. Co., Fairmont, W. Va.
Howell & Co., R. R., Minneapolis, Minn.
International Harvester Co. of America, Inc., Chicago.
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Lucdingham's Perpetual Wag. Co., St. Louis, Mo.
Lyon Iron Works, Greene, N. Y. (Logging.)
Mercury Manufacturing Co., Chicago
North Coast Lbr. Kiln Co., Seattle, Wash (Lumber.)
Nutting Truck Co., Faribault, Minn
Peninsular Iron Works, Portland, Ore.
Ramapo Iron Works, Hillburn, N. Y.

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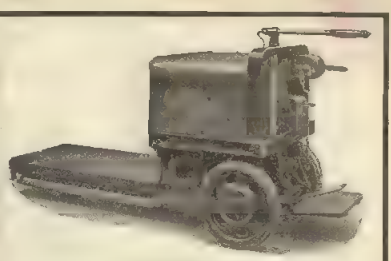
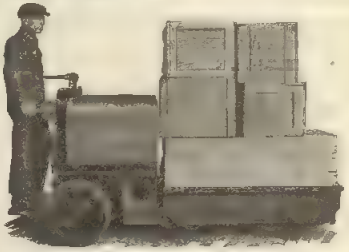


COWAN
Electric Self-Loading Truck

Simplicity. Minimum of parts; all interchangeable.
Safety. Proof against hard usage, inexperienced operators and meddlers. Automatic re-acting foot pedal controls current and brakes. Removable controller handle. "Anti-kick" device takes jar off steering handle. Batteries rest on springs. Numerous other distinctive safety features.
Capacity. Guaranteed up to 5,000 lbs. Truck may also be used as light duty tractor.
Operation. Unusual flexibility in operation. Four-wheel steer. Will operate in intersecting aisles 57 inches wide. Lifting Mechanism, 4 to 5 seconds faster than any similar truck on market. All controls at front end; operator may face either way.
Stability. Rigid construction throughout. Low center of gravity. Every truck carefully inspected and tested before leaving factory.
Accessibility. All parts readily accessible for inspection or oiling.



COWAN System for Handling Materials
By using skids and Cowan Self-Loading Trucks you save labor, discontent and damaged materials, while you gain time, floor space, methodical progress of work, increased production. The "through ticket" system for handling materials

Complete Descriptive Bulletin Sent on Request.
General Offices and Works

COWAN TRUCK COMPANY
HOLYOKE, MASS.

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San Francisco, Calif.
Los Angeles, Calif.
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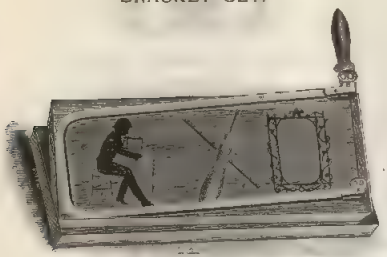
Havana, Cuba

See COWAN Self-Loading Hand Trucks and Electric Tractors

SCROLL SAWS AND BLADES.

BRACKET SET.

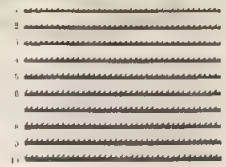


MILLER FALLS.

	Net per doz. sets
NO. 1—Size of frame 5x12 in., roughed nickeled, with japanned handle, patent clamp for holding the blades, three sheets of designs, embracing a variety of fancy and useful articles, twelve saw blades, one awl, one sheet of impression paper, weight 14 lbs. per dozen	$21.10

ONE SET IN A BOX

BLADES.



Length 5 in., for either Hand or Machine Saws.

NOS.	1 to 6	7	8	9	10
List per gross	$1.70	1.80	1.90	2.30	2.50
Net per gross	$2.60	2.80	2.80	2.80	2.90

ONE DOZEN EACH SIZE IN A BUNDLE, ONE GROSS IN A BOX

No. 1C

No. 1R

Net each

NO. 1C **Cricket**, japanned iron frame, drive wheel and treadle, 6 in. tilting table, 18 in. second growth ash arms, 10½ in. drive wheel, steel shaft with 4½ in. balance wheel, round leather belt, height 32 in., base 21x15 in., complete with 12 saw blades, 1 wrench, sheet of designs, and 3 drill points, weight crated 35 lbs. each ..... Market Price

NO. 1R **Rogers**, japanned iron frame, ornamented with gilt and red stripes, with blower and drill attachment, 18 in. iron tilting table, 20½ in. hardwood rocking arms, 12 in. drive wheel, round leather belt, height 37 in., base 23x16 in., complete with 12 saw blades, 1 wrench, sheet of designs, 3 drills, weight crated 86 lbs. each ..... Market Price

ONE IN A CRATE.

F. O. B. FACTORY.

"PAGOMA" Axes are guaranteed.

THE SHURE WINNER PRICE LIST

"Crown" Razors

A Good Judge of Razors will buy these. Each Razor Guaranteed

The Crown Razor is a special product in the razor line. Manufactured by the Crown Razor Co., of Boston, Mass. It is strictly high grade, made of best decarbonized American steel, by skilled mechanics. It has the finish and appearance as well as cutting quality of a razor that would sell at many times the price quoted. Each razor is fully guaranteed, and if found defective, will be replaced with a new one.

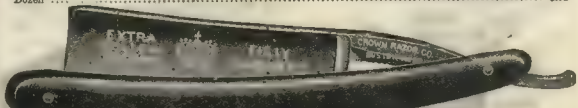
These razors are made with greatest care, and we are therefore safe in saying that no razor at a similar price in the market is as good. For mail-order men, street men, razor agents, canvassers, premium men and dealers, these razors have no equal.

The handier or dealer may ask most any price he desires for these razors, because the quality, appearance and finish justifies it. The evenness of the temper and the cutting quality is seldom obtained in other makes. We are sure that a trial order will result in many repeaters. It is positively one of the best razors for mail order exploitation.

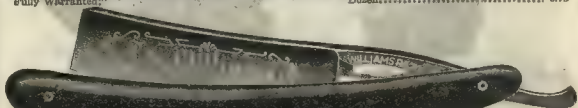
No. C 5585 Crown Razor, square point, extra hollow ground, ⅝-in. blade, highly polished black handle. Dozen 4.25

No. C 5586 Crown Razor, round point, ⅝-in. blade, extra hollow ground finish, polished black handle. Dozen 4.25

No. C 5595 Barbers Special Crown Razor, black handle, standard rounded pattern, ⅛-in. blade, square end, rounded back and shank, hollow ground, tile tang, "Barbers Special" etched on face of blade, an all ground barber's razor, fully guaranteed and ready for use; Dozen 6.75



No. C 5594 Crown Razor, [illegible], hollow ground razor, double shoulder, ⅝-in. blade, square end, round heel, well ground and highly polished, rounded back, tile tang, etched on face "Extra Hollow Ground Fully Warranted". Dozen 6.75



No. C 5590 Williams Razors, [illegible] Rubber handle, closed 5⅞ in. long, standard shape, with ⅝ in. blade, square end, round back and shoulder, rounded heel, tile tang, etched in gold on blade "Williams," on shank "Williams Razor Co., Worcester, Mass." Blade and shank highly polished. This razor is set ready for use and warranted to be in good shaving condition. If it does not prove satisfactory, it can be exchanged if returned in as good condition as when purchased. Fine [illegible] high grade razor in every particular. Comes in plain slip cover case. Dozen 10.50

WHOLESALE N. SHURE CO. CHICAGO.

WHOLESALE N. SHURE CO. CHICAGO.

THE SHURE WINNER

THE SHURE WINNER
PRICE LIST

Razor Hones, Strops and Strappers

Sold in Original Packages Only

Razor Hones

No. 11G26. Crown Razor Hone. This is a carborundum hone of extreme fineness. It surpasses in cutting qualities any natural stone hone offered. Size 6x1¾ inches. Each in Tuck box. 1 doz. in carton. Per gross.. 7.00 | Per dozen.. .60

No. 11G32. Barber's Razor Hone, length 5⅝ in., width 2 in. fine smooth even grain with exceptional cutting quality, warranted extra quality. Each in box. 1 dozen in carton.
Per gross 17.00 | Per dozen. 1.45

No. 11G31. Famous Razor Water Hone, a stone that has built a name and a reputation for itself solely upon its superior merits. The firmness and uniformity of the grain and structure, produce sharpening qualities that are superior for all fine edged tools. Length 7 inches, width 1¼ in., and ⅜ in. thick. Directions for use with each hone. Per dozen 3.75

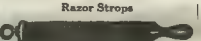
No. 11G34. Williams' Cushion Back Hone. Combines the most efficient razor strop with a foolproof dry hone, fine smooth even grain hone, cushion center and fine leather strop back. Each in box. ½ doz. in carton.
Per dozen..... 5.25

No. 11G35. Williams' Cushion Back Hone, as above, with carborundum top and fine leather strop cushion back. Per dozen.... 5.25

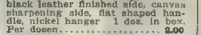
No. 11G33. Swaty Razor Hone, is made by **Franz Swaty, Marburg, Austria,** the famous manufacturer of razor hones. Size 7x1⅛ x ⅛ in. thick. Made from a scientific composition under hydraulic pressure which gives it a grain possessing superior qualities for producing keen cutting edges. Honing can be done with either oil or water. Directions for use with each hone. Per dozen.... 7.20

Razor Strops

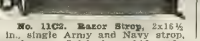
No. 11G3. Razor Strop, 2x20 in., black leather finished side, canvas sharpening side, flat shaped handle, nickel hanger. 1 doz. in box. Per dozen..... 2.00



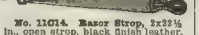
No. 11G2. Razor Strop, 2x1⅝ in., single Army and Navy strop, mahogany finish horse-hide side, black leather tops, nickeled English handle, metal hanger. 1 dozen in box. Per dozen..... 3.00



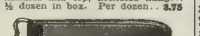
No. 11G14. Razor Strop, 2x23½ in., open strop, black finish leather, filled in tubular hose back, leather handles and top, nickeled hanger. ½ dozen in box. Per dozen.. 3.75



No. 11G6. Razor Strop, 2x17 in., double leather cavalry strop, mahogany and black corrugated finish horse-hide, black leather tops, nickeled cavalry swivel and handle. ½ doz. in box. Per dozen 6.00

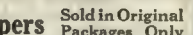


No. 11G16. Razor Strop, 2¼ x 23½ in., open barber's strop, mahogany finish grain horse-hide leather, prepared linen web back, fashion handle, nickeled swivel ½ dozen in box. Per dozen.. 8.50

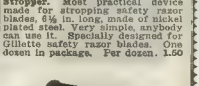


No. 11G7. Razor Strop, 2x23 in., double grain horse-hide leather, mahogany and black finish, padded leather loop handle, leather tops and nickeled swivel. ½ dozen in box. Per dozen..... 5.75

Safety Razor Blade Strappers



No. 11G97. Gorham Razor Blade Stropper. Most practical device made for stropping safety razor blades, 6¾ in. long, made of nickel plated steel. Very simple, anybody can use it. Specially designed for Gillette safety razor blades. One dozen in package. Per dozen. 1.50



No. 11G64. Sharpen-M-All Safety Blade Stropper. Fine black leatherette case with silver embossing. Two rollers covered with the very best obtainable leather. Furnished with three holders and will sharpen any double or single edge safety razor blade made. Full directions with each stropper. Each in box. Each..... .90

No. 11G42. Leather Stropper, for Gillette Blades; metal case, highly polished and nickel plated with two spiral rollers that revolve and give the correct diagonal stroke; sharpens two edges at once, well constructed and will last a life-time. Full directions with each stropper. Each.... .85

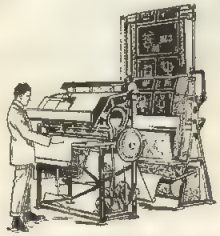
No. 11G49. Razor Blade Stropper, for Gillette Style Blade; metal case, nickel plated and highly polished. Sharpens blades quickly and more satisfactorily than any other machine on the market and is equal to any $5.00 stropper on the market in appearance as well as practicability
Each 2.00

The C. F. Pease Company

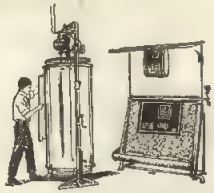
Blue Printing Machinery
Drafting Room Supplies

825 N. Franklin St. Chicago, Ill.

Cable Address: Peaseco—Chicago.
Codes: A B C, 5th and Private.



Peerless Blue Printing Equipment. Prints, washes and dries perfect blue prints in one continuous operation.



Pease-Vertical Blue Printing Equipment and sheet washer in operation.

Pease "Chicago Made" Drawing Instruments are furnished singly or in complete sets in Morocco cases.

Every Blue Printing, Drafting Room and Field Requirement can be supplied promptly from Pease Chicago Stock. Write for Catalogs.

or 6 foot iron wire. These machines include Davis No. 1 Blaster, small, light of weight and particularly suited for coal blasting and at all operations where not more than five shots are fired together.
California Cap Co., Oakland, Cal.
du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.....See Advt. Index, Page 7
See Adv. at Blasting Accessories.
Fidelity Electric Co., Lancaster, Pa.
.....**See Advt. Index, Page 7**
Giffin-Bassett, Inc., 242-244 Lafayette St., New York.....See Advt. Index, Page 7
Hercules Powder Co., Wilmington, Del
.....**See Advt. Index, Page 7**
These machines are made in six sizes with a capacity of firing from three to 150 Electric Blasting Caps with copper wire.

Machines, Bleaching

Biggs Boiler Works Co., The, West Akron, Ohio.....See Advt. Index, Page 7
Paper Mill Globe and Cylinder Rotary Boilers.
Butterworth & Sons, H. W., Philadelphia, Pa.
Giles Dyeing Mach. Co., Jno. H., Taunton, Mass
Hunt Mach. Co., Rodney, Orange, Mass.
Leigh & Butler, Boston, Mass.
Philadelphia Drying Mchy. Co., Philadelphia, Pa.

Machines, Blue Printing, Electric

Buckeye Engine Co., Salem, O.
Paragon Machine Company, The, 501 Engineering Bldg., Rochester, N. Y. Page 7
The first consideration in making Blue Prints should always be to obtain the best copy possible from the original. Secondly, the equally important factor, reduction of time and cost to a minimum. Paragon Equipment separates the work into three operations, printing, washing and drying, thereby obtaining perfect prints. With the high speed of Paragon Machines prints can be made at more than twice the speed possible with any other equipment, besides greatly reducing the actual cost per square foot of prints. Paragon Equipment is so constructed that it is equally efficient for the use of either cut sheets or Blue Print Paper or continuous rolls, and will print perfect and permanent prints from tracing cloth, tracing paper, Van-dyke negatives, Patent Office bristol boards, or films.
Pease Co., The C. F., 225 Institute Place, Chicago.....See Advt. Index, Page 7
Pease Peerless Automatic Continuous Prints, washes and dries by one continuous operation. Large output; only one operator required; economical in operation and maintenance; gives lowest known cost of production per sq. ft. of blue print; very compact. Floor space only 15x65 feet.
Pease-Vertical. Has all steel frame; can be shipped anywhere without danger of breakage. Exceptionally fine contact and lamp control. Made any size desired. Clean, economical and convenient.
Revolute Machine Company, 419 E. 93rd St., New York.....See Advt. Index, Page 7
Revolute Printers print in continuous rolls or on cut sheets from cloth or paper tracings, Van Dyke negatives, Patent Office bristol boards or films. PERFECT CONTACT secured through ROTATING GLASS CYLINDER and CONTACT BELTS. Complete line of continuous horizontal and vertical printers covering all demands of capacity, speed and price.
Wagenhorst & Co., J. H., Youngstown, O.
Wickes Brothers, Saginaw, Mich.
Williams, Brown & Earle Co., Inc., Philadelphia, Pa.

Machines, Blue Printing, Washers and Driers

Revolute Machine Company, 419 E. 93rd St., New York.....See Advt. Index, Page 7
Revolute Washers and Driers wash, dry and iron or wash and dry continuous rolls and cut sheets, and is the only washer and drier which will handle cut sheet work. The GROUND STEEL DRUM insures PERFECT CONTACT during drying process. The mechanical wringer removes surplus water. Machines can be equipped for gas or electric drying.

Machines, Blueprint, Driers

Paragon Machine Company, The, 501 Engineering Bldg., Rochester, N. Y. Page 7
Revolute Machine Company, 419 E. 93rd St., New York.....See Advt. Index, Page 7
Revolute Driers handle continuous rolls and cut sheet drying. The GROUND STEEL DRUM insures PERFECT CONTACT during entire drying process. Machines can be equipped for gas or electric drying and the various models will accommodate all demands of blueprint drying.

Machines, Boiling, Textile

Butterworth & Sons, H. W., Philadelphia, Pa.
Fabricated Steel Products Corp., Leetonia, O.
Parks & Woolson Co., Springfield, Vt.
Textile Finishing Mchy. Co., Providence, R. I.

SEE ALSO MACHINERY, UNDER VARIOUS CLASSIFICATIONS

JUVENILE AUTOS AND "NEVER-TIP" SULKIES

Popular selling numbers made by leading manufacturers. All are strongly made of the best of materials and are excellently finished in attractive colors. Our prices are low; you will find them hard to beat.

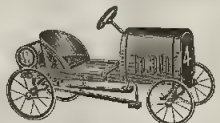
"DAN PATCH" JUVENILE AUTOS

F270—37x19, strong wood frame, red body, black striped, striped racer style, 5x19 wheels, black steel gears, hangers and axles, 5x19 wheels, ¾ in. rubber tires, steel steering wheel, starting crank. 1 in crate, 47 lbs. Each, $8.25

F271—37x19, blue body, orange striped, stripped racer style, black steel gears, hangers and axles, 5x19 wheels, ¾ in. rubber tires, steel steering wheel, starting crank, tool box at rear. 1 in crate, 56 lbs. Each, $7.50

F263—40x18, red enameled body, black stripes, large painted seat, rear gasoline tank, steel steering wheel, auto steering knuckles, 8 and 18 in. double spoke wheels, ¾ in. rubber tires. 1 in crate, 75 lbs. Each, $7.50

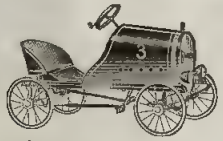
F272—46x19, orange body, black stripes and trimmings, 10x28 in. double spoke wheels, ¾ in. rubber tires, large tool box at rear, complete with adjustable metal windshield. 1 in crate, 46 lbs. Each, $8.75



F261—44x20, canary enameled body, black trim, upholstered seat, dash, radiator front, gasoline tank, steel steering wheel, 10 and 12 in. double spoke wheels, ¾ in. rubber tires. 1 in crate, 50 lbs. Each, $7.75

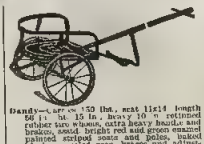
F265—44x20, yellow enameled body, black trimmings, wood shield, gasoline tank, mahogany finish wood rim steering wheel, 10 and 12 in. double spoke wheels, ¾ in. rubber tires. 1 in crate. Each, $8.75

"AMERICAN NATIONAL" JUVENILE AUTO



F281—"Banner," 48x22, red body, yellow striping, yellow radiator front, 12 in. double spoke wheels, ¾ in. rubber tires, knuckle joint gear, wood rim steering wheel, gas and spark controls, tool, road lamp, front bumper, motor meter, large nickel plated pub caps. 1 in crate, 60 lbs. Each, $11.50

"NEVER-TIP" CHILDREN'S SULKIES



Dandy—Large, 150 lbs., seat 11x14, length 56 in., ht. 15 in., heavy 10 in. reinforced rubber tire wheels, extra heavy handle and brakes, solid bright red and green enamel painted striped seats and poles, baked black enamel gear, brakes and adjustable foot rest. F219—Assid. 2 in crate, 17 lbs. Each, $1.95 (Total $3.90)

Reversible—Heavy wood seat 14 x 30, red lacquered green stencilled reinforced brace for reversing, adjustable front and back foot rests, 10 in. lacquered double spoke wheels, ¾ in. rubber tires, 48 in. heavy wood handle. Each, $2.25 F220—2 in crate, 24 lbs. (Total $4.50)

VELOCIPEDES AND TRICYCLES.

High grade velocipedes and tricycles at rock bottom prices. They are strongly constructed to withstand hard usage. Only the numbers that are in popular demand and require little effort to sell are shown. Our low prices allow you greater margins of profits than you can secure elsewhere. Order your needs here—NOW.

"CLIPPER" VELOCIPEDES

Distributed exclusively by Butler Brothers

1 pc. fork with adjustable catch doing away with screws and bolts for setting up.

STEEL TIRES—Adjustable heavy fiber seat on patented saddle spring, extra heavy red enameled steel wheels, baked black enameled frame and brass ferrule grips, 1 pc. fork with adjustable catch doing away with screws and bolts for setting up. 3 in crate.

No.	Wheels	Size	Wt.	Each
F155—0	14 and 10 in.	Small children	40 lbs.	$2.50
F155—3	20 " 14 "	5 to 9 yrs.	62 "	3.20

F157. Asst. consists 1 only F 53, 2 only F154 and 3 only F155. Asstd. 4 in crate, 60 lbs. Asst. $11.00

F 53

RUBBER TIRES CLIPPER "SPECIAL"—Red enameled steel frame and wheels, ¾ in. rubber tires, extra strong rear axle supports, padded leather bicycle saddle with nickel plated double springs, nickel plated adjustable handle bar with leather wound grips. 1 in crate.

	Wheels	Size	Wt.	Each
F168	16 and 12 in.	3 to 7 yrs.	30 lbs.	$6.75
F169	20 " 14 "	6 " 8 "	37 "	7.40
F170	24 " 16 "	7 " 11 "	51 "	7.90

Assortment—Comprises 2 sizes, 2 of F168 for children 3 to 7 yrs. with 16 and 12 in. wheels and 2 of F169 for children 5 to 9 yrs. with 20 and 14 in. wheels.

F168—Asstd. 4 in crate, 75 lbs. Asst. $13.50

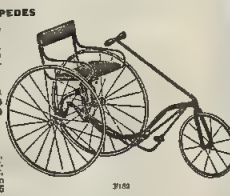
F168

TRIANGLE TRUSS FRAME PLAIN-BEARING VELOCIPEDES

Extra well made and durable triangle truss frame gives great strength to backbone and rear axle, also acts as mounting step. Triangle truss frame, enameled dark green with gold stripping, wide axle, bicycle head, padded leather bicycle saddle, double coil nickel plated springs, nickel plated adjustable handle bars, leather grips, ¾ in. rubber tires, hub caps. 1 in crate.

Wheels	Reach	Adjustment	Wt.	Each
F140—16 and 12 in.	17½ to 20½ in.		28 lbs.	$7.90
F141—20 " 14 "	19½ " 22½ "		33 "	8.50

F140-41



F183

"CLIPPER" TRICYCLE

F183—14 in. rubber tires, 26 and 12 in. wheels, 3 to 8 yrs., leatherette upholstered, black enameled frame and gearing, new suspension spring, wide adjustable seat, full back, bent nickel, reversible steering bar, leather grips. 1 in crate, 35 lbs. Each, $10.75

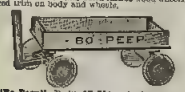
Buy Goods As You Need Them *Mail orders from this catalogue will enable you to have a variety of the kind of goods your customers ask for and keep your investment down to the minimum. A small investment WITH FREQUENT TURNOVER means A GREATER NET PROFIT AT THE END OF THE YEAR THAN BIG STOCKS THAT MOVE SLOWLY.*

"IRONCLAD" STEEL BODY EXPRESS WAGON

F32—Body 10x20 bright red gold stripe wood side, hardwood rear end 10 in wood wheel to floor in crate, 44 lbs. ★12.50

JUNIOR SIZE WOOD WAGONS

Hardwood body and gearing, natural varnish finish, fancy solid turned wood wheels, red trim on body and wheels.



"Bo-Peep"—Body 16x9½, wheels 4½ in. F76—4 in carton. Each $1.50
(Total $6.00)

"Humpty Dumpty"—Body 12x11, wheels 6 in. F77—4 in crate. Each, $1.75
(Total $7.00)

"Junior Coaster"—Body 24x11, wheels 7 in. F78—2 in crate. Each, $2.00
(Total $4.00)

STEEL CART

F28—Body 8x15 in., extra heavy steel construction, special 7 in. reinforced wheels, wide rim, steel axle with roller nut ends running through steel brace 24 in. smooth hardwood handle with "T" grip, red painted body, green painted wheels, bound with bolts. ½ doz. in carton. Doz. $6.50

WOOD CART

F3274—Length 17 in., bt. 6 in., enameled yellow body with red wheels and gearing. Each car in individual carton. Doz. $2.25

COMBINATION AUTO AND COASTER

F198—29x17 highly enameled hardwood, natural rubber body, 8 in. solid red wheels, 14 in. steering wheel, 25 in. hickory seat, painted axle supporting steel ring on bumper car can be pulled by rope or screwed on instead of pulled. 1 in carton. Each, $2.50

"TAD O'BILES"

F884—31x14 in., bt. seat 9 in., 6 in. fancy turned wood wheels auto steering wheels, body blue, red seat & steering post, wheels white with red trimming. 2 in carton.
(Total $5.25) Each, $1.75

F835—L. S. Dispatch" 32x16 in., bt. seat 10 x 8 in., 6 in. turned wood wheels, back rest, tool box at rear, foot rests, auto steering wheel. 2 in carton. Each $2.50
(Total $5.00

THE "BUDDY BUG"

F295—Length 29 in., well seasoned Western pine painted bright yellow, 14 in. solid rod wheels made of best hardwood, axle with ½ in. solid steel bar covered by wooden housing, seat can be adjusted from 14 to 17 in. from ground. 32 in. steel handle steering post, red foot rest for coasting. When taken apart can be carried in an ordinary suit case. Any person can assemble in three minutes. Painted in bright, yellow and red wheels. 1 in carton. Doz. $24.00

"OVERLAND" SCOOTERS

STAR VALUE

Green enameled 32x9 steel frame, red enameled wood cross handle, natural varnished hard wood grips, 2 in. steel spoked wheels. 2 in carton. 15 lbs.

F231—½ in. rubber tires. Each (Total $4.30) ★2.15

F232—¾ in. rubber tires. Each (Total $5.00) ★2.50

"SPIFFY KAR"

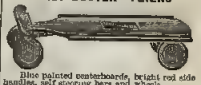
F198—32x17 in., gray enameled steel frame and propelling lever, bright red painted and varnished wood seat, metal back, red enameled wheels 12 & 16 in., 2 in rubber tires. Steering reach adjustable to suit ages from 3 to 12 years. 1 in crate, 50 lbs. Each $5.75

"HORSCYCLE"

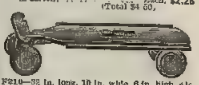
F860—28 in. high, 39 in. long, 17 in. wide, for children 2 to 4 years of age, head body and legs made of 1¼ in. felt dried over body, dappled black and white, finished with high lustre varnish, rear wheels 2 in. thick, 11 in. diameter, front wheel 2 in. thick, 8 in. diameter, rubber tires with action on chrome steel bearings over tested steel axle, harness, collar and saddle blanket red and yellow, wheels red and saddle brown, self propelling action, saddle 18x25 in. 2 in crate, about 40 lbs. Each $6.00
(Total $12.00)

A small investment with frequent turnover means a greater net profit at the end of the year than big stocks that turn slowly.

"BILLY BUSTER" FLIERS



Blue painted coasterboards, bright red side handles, self steering bars and chain.
F208—30 in. long, 10 in. wide, 8 in. high, 4½ in. turned wood, plain bearing wheels, 2 in carton. Each, $2.25
(Total $4.50)



F210—32 in. long, 10 in. wide, 6 in. high, 4½ in. turned wood, ball-bearing wheels, 2 in carton. Each, $4.50
(Total $9.00)

GILBERT'S NEW WHEEL TOY SETS

Illustrating some of the toys made

F5643—(Mfrs. 9003). Builds full size glider or scenic, wheel-barrow, scenic wagon, etc. cabinet, 10¼x6x18. Each set in lined oak stained hardwood cabinet. Each, $4.20

HAND CARS

F300

"Traveler"—Length 31 in., seat 7¾x16 in., wheels 12 and 8 in., ¾ in. rubber tires, black enameled steel frame, gear, heavy axles and cog drive, red wheels and seat board, gold bronze decorations.
F200—1 in crate, 30 lbs. Each, $5.25

F204

"Irish Mail"—Length 40 in., seat 20x9 in., wheels 8 and 12 in., ¾ in. rubber tires, sanded natural finish red with narrow green striping pickery frame, stands greater comfort than steel seat and wheels. Brushed in dark green gears and axles, black
F204—1 in crate, 32 lbs. Each ★6.00

F202

"Reliable"—Length 36 in., seat 24x9 in., wheels 10 and 4 in., ¾ in. rubber tires, black enameled steel frame, gear and cog drive, yellow enameled seat strips in red, yellow wheels
F202—1 in crate, 35 lbs. Each, $3.50

F201

"Tandem Racer"—Length 45 in., tread 16½ in., seat 16 in. from floor, wheels 10 and 14 in., ¾ in. rubber tires, black enameled steel frame, red enameled seat board, decorated in gold.
F201—1 in crate, 50 lbs. Each, $3.50

The "Overland" Coasters

The most popular sellers of their kind on the market. Our low prices make substantial profits possible

Red enameled, hardwood seat and handle bars, steel fork, steering gear and wheel supporters green enameled, steel wheels, rubber tires

Baby Coaster—Length 30 in., bt. 16½, bt. of seat 8¼ in., seat 14x8¾, wheels 6 in., 8 spokes, ½ in. rubber tires.
F212—2 in carton 10 lbs. (Total $4.30) Each, **$2.15**

Coaster—Length 34 in., bt. 21 in., bt. of seat 11 in., seat 20x8½, wheels 8 in., 12 spokes, ⅝ in. rubber tires.
F213—6 in carton, 20 lbs. (Total $6.00) Each, **$3.00**

"Overland Limited"—Length 39½ in., bt. 21, seat 19½x7½, bt. of seat 11, ivory enameled steel steering gear, frame and double spoke 8 in. wheels, ⅝ in. rubber tires, foot rest.
F214—2 in carton. (Total $7.30) Each, **$3.65**

DAVIDS'

Inks and Adhesives

All Orders receive our prompt and personal attention.

We especially invite the patronage of Purchasing Agents of Railroad and Express Companies, Hotels, Municipalities, Schools, etc.

In addition to making every conceivable kind of INK, as noted under Classifications herein,

We also Manufacture

Glue, Paste, Ink Eradicators, Rubber Stamp Pads, Mucilage, Carbon Paper, Typewriter Ribbons, Sealing Wax, and Cement Specialties

Please Note Our Listings Herein

THADDEUS DAVIDS INK CO., Inc.

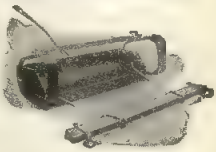
America's Oldest Ink and Adhesive Manufacturers

NEW YORK *FOUNDED 1825* CHICAGO

DEWEY
SUPPLY CORPORATION

We Make Scrapers Our Specialty

Baker Maney Four-Wheel Scrapers.
Fresno or Buck Scrapers.
Utah Tongue Scrapers.
Back Filler Scrapers.
Wheel Scrapers (round or square bowl).
Drag Scrapers (Plain, with runners or double bottom).
Hitches—Singletrees—Etc.



Export Correspondence Invited

Dewey Supply Corporation

18 West 34th Street — New York City

Gilmore Tube Scraper Works, Buffalo, N. Y.
Michigan Lubricator Co., Detroit, Mich.
Millers Falls Co., Millers Falls, Mass.
Newark Brush & Scraper Co., Newark, N. J.
Pilley Packing & Flue Brush Mfg. Co., 606 S. Third St., St. Louis, Mo....See Page
Sherwood Manufacturing Co., 1702-1716 Elmwood Ave., Buffalo, N. Y.....See Page 7
Standard Supply & Hardware Co., Inc., New Orleans, La.
Worcester Brush & Scraper Co., Worcester, Mass.

Scrapers, Box and Plumbers'

Berns, Otto, Newark, N. J.
Braunsdorf-Mueller Co., Elizabeth, N. J. (Box.)
Bridgeport Hardware Mfg. Corp., The, Bridgeport, Conn.
Browne & Dowd Mfg. Co., Meriden, Conn.
Diener Mfg. Co., Geo. W., Chicago.
Drew & Co., C., Kingston, Mass. (Box)
Duffy Mfg. Co., Chicago. (Box.)
Sargent & Co., New Haven, Conn. (Box.)
Weston, Thos. B., Baltimore, Md.

Scrapers, Cabinet

Bishop & Co., Geo. H., Lawrenceburg, Ind.
Disston & Sons, Inc., Henry, Philadelphia, Pa
Sargent & Co., New Haven, Conn.
Stanley Works, New Britain, Conn.
Starrett Co., L. S., Athol, Mass.

Scrapers, Carbon

Braunsdorf-Mueller Co., Elizabeth, N. J.
Gemco Mfg. Co., Milwaukee, Wis.
Marcy Tool Works, Putnam, Conn.
Morgan Mfg. Co., Keene, N. H.
Mound Tool Co., St. Louis, Mo.
Nelson Mfg. Co., Chicago.

Scrapers, Floor

Bishop & Co., Geo. H., Lawrenceburg, Ind.
Nicholls Mfg. Co., Ottumwa, Ia.
Stanley Works, New Britain, Conn.
Starrett Co., L. S., Athol, Mass.

Scrapers, Miners' See Needles and Scrapers, Miners'

Scrapers, Painters' and Paperhangers'

Horn & Bro., Wm. H., Philadelphia, Pa.
Richard Co., Stephen, Southbridge, Mass.
White & Son Co., Ira F., Bloomfield, N. J.

Scrapers, Plumbers' See Scrapers, Box and Plumbers'

Scrapers, Road, Drag or Wheel

American Steel Scraper Co., Sidney, O
Baker Mfg. Co., The, Springfield, Ill.
Channon Company, H., 121 N. Market St., Chicago.....See Advt. Index, Page 7
Chattanooga Wheelbarrow Co., Chattanooga, Tenn
Dewey Supply Corporation, 18 W. 34th St., New York.....See Advt. Index, Page 7
Fresno Agricultural Works, Fresno, Cal.
Good Roads Machinery Co., Kennett Square, Pa.
Gowanda Architectural Works, Gowanda, N. Y.
Holt Mfg. Co., Stockton, Cal. (Drag)
Lansing Company, The, 215 W. Cedar St., Lansing, Mich.....See Advt. Index, Page 7
Lehr Agricultural Co., Freemont, O. (Drag.)
Mooney, Douglas & Pearson, New York
Reading Engineering Co., Inc., New York.
Road Supply & Metal Co., The, Topeka, Kans.
Root Spring Scraper Co., Kalamazoo, Mich.
Russell Grader Mfg. Co., Minneapolis, Minn.
Sauerman Bros., Chicago (Power Drag.)
Sherwin & Son, D. C., Brandon, Wis.
Sidney Steel Scraper Co., Sidney, O.
Slusser-McLean Scraper Co., Sidney, O.
Smith & Sons Mfg. Co., Kansas City, Mo.
Southern Hardware & Supply Co., St. Louis, Mo.....See Advt. Index, Page 7
Spaulding Mfg. Co., Grinnell, Ia.
Stroud & Co., Omaha, Neb.
Western Wheeled Scraper Co., Aurora, Ill.....See Advt. Index, Page 7
The Western—the kind used for forty years

Scrapers, Ship

Laughlin Co., Thos., Portland, Me.
Mack & Co., Rochester, N. Y.
White Co., The L. & I. J., Buffalo, N. Y.
Williams, William R., 82 Front St., New York.....See Advt. Index, Page 7
Woodward, Wight & Co., Ltd., New Orl., La.

Scrapers, Shop and Street Cleaning

Gifford-Wood Co., Hudson, N. Y.
Marshall Manufacturing Co., Chicago.
Rochester Can Company, Rochester, N. Y.

Scrapers, Sidewalk

Columbus Handle & Tool Co., Columbus, Ind.
Dewey Supply Corporation, 18 W. 34th St., New York.....See Advt. Index, Page 7
Maynard, C. A., Northampton, Mass.
Pittsburgh Shovel Co., The, Pittsburgh, Pa.
Swineford Co., G. A., Canton, O.
Union Fork & Hoe Co., Columbus, O.
Union Furnace Mfg. Co., Union Furnace, Pa.
Wyoming Shovel Works, The, Wyoming, Pa.

Scrapers, Snow

(Plate or bar attached to a car or locomotive to scrape snow or ice from the rails)
Dewey Supply Corporation, 18 W. 34th St., New York.....See Advt. Index, Page 7
Hvass & Co., Chas., New York.
Root Spring Scraper Co., Kalamazoo, Mich

Scrapers, Wall

American Cutlery Co., Chicago.
Hills, Edwin, Plainville, Conn
Landers, Frary & Clark, New Britain, Conn.
Ontario Knife Co., Franklinville, N. Y.
Richard Co., Stephen, Southbridge, Mass.

Scraping Tools See Tools, Scraping

Screen Partitions See Grilles and Wickets

Screen Plates See Plates, Screen

Screening Machines See Machines, Screening

Screenings, Stone

Novelty Steam Boiler Works, Baltimore, Md.

Screens, Bank Counter, Metal See Grilles and Wickets

Screens, Clay and Cement

Cal. Perforating Screen Co., San Francisco, Cal.
Chambers Bros. Co., Philadelphia, Pa.
Chicago Perforating Co., 2447 W. 24th Pl., Chicago.
Cross Engineering Co., Carbondale, Pa.
Estey Wire Works Co., New York.

(Continued on following page)

Fire Extinguishers

and

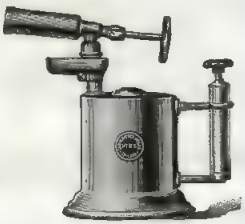
Fire Apparatus

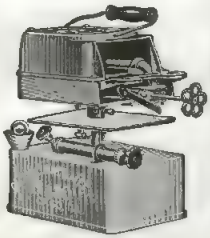
Ash, Waste, Safety and Excelsior Cans

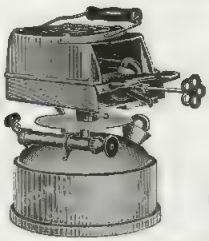
Send for Catalog No. 20

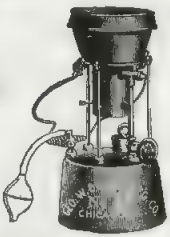
Geo. W. Diener Mfg. Co.
400-420 Monticello Ave.
CHICAGO, U. S. A.

BLOW TORCHES, Gasoline and Kerosene. FURNACES, Plumbers' and Tinners'









"TORRID"

Gasoline Appliances

Send for Catalog No. 21

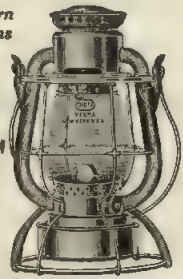
GEO. W. DIENER MFG. CO.
400-420 Monticello Ave.
CHICAGO, U. S. A.

DIETZ VESTA

RAILROAD LANTERN

IT BURNS KEROSENE

A Safer Lantern For Long Trains



DIETZ "Vesta" Kerosene Lanterns give three times as much light as Signal Oil Lanterns, making Vesta Signals visible for greater distances in winter storms and fog.

Dietz "Vesta" Kerosene Lanterns make the operation of long trains more safe, besides effecting a large saving in the cost of fuel.

R. E. DIETZ COMPANY

NEW YORK

Largest Makers of Lanterns in the World—Founded 1840.

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Railroad Hand Lanterns for All Purposes

Railway Equipment Co., Portland, Ore.
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Southern Hardware & Supply Co., St. Louis, Mo. ..... **See Advt. Index, Page 7**
Star Head Light & Lantern Co., Rochester, N. Y.
Universal Metal Spinning & Stamp. Co., Inc., N.Y.

Lanterns, Signal Oil

Adams & Westlake Company, Chicago.
Buckman, Isidor, New York.
Dewey Supply Corporation, 18 W. 34th St., New York ..... **See Advt. Index, Page 7**
Dietz Co., R. E., 60 Laight St., New York ..... **See Advt. Index, Page 7**
See Lanterns, Railway
Gray & Sons, Peter, Inc., Boston, Mass.

Lanterns, Street

Adams & Westlake Company, Chicago.
Dewey Supply Corporation, 18 W. 34th St., New York ..... **See Advt. Index, Page 7**
Gray & Sons, Peter, Inc., Boston, Mass.

Lanterns, Switchmen's

Adams & Westlake Co., The, Chicago.
Dewey Supply Corporation, 18 W. 34th St., New York ..... **See Advt. Index, Page 7**
Dietz Co., R. E., 60 Laight St., New York ..... **See Advt. Index, Page 7**
See Lanterns, Railway

Lanterns, Taillight and Classification

Adams & Westlake Co., The, 319 W. Ontario St., Chicago ..... **See Advt. Index, Page 7**
Dewey Supply Corporation, 18 W. 34th St., New York ..... **See Advt. Index, Page 7**
Gray & Sons, Inc., Peter, Boston, Mass.
Nichols-Lintern Co., The, Cleveland, O. ..... **See Advt. Index, Page 7**
Indicating Taillights give accurate information of controller operation of preceding car. Reduces rear end hazard, saves power and equipment and is a safety factor of high value
Star Headlight & Lantern Co., Rochester, N. Y.

Lanterns, Trackwalkers'

Adams & Westlake Company, Chicago
Dewey Supply Corporation, 18 W. 34th St., New York ..... **See Advt. Index, Page 7**
Dietz Co., R. E., 60 Laight St., New York ..... **See Advt. Index, Page 7**
See Lanterns, Railway.

ADLAKE

Below are listed some of the most important products of

The Adams & Westlake Company

More complete information is found in Adlake Bulletins—sent free

Attachments, Signal Lamp, Electric.
Balances, Sash, Car
Bells and Gongs, Car.
Bolts, Door.
Brakes, Car, Hand.
Burners, Long Time and Signal.
Bushings, Bell Cord.
Castings, Aluminum Brass, and Bronze
Catches, Cupboard.
Chimneys, Headlight, Signal Lamp and Chandelier.
Closets, Car, Passenger
Cocks and Bibbs
Coolers, Car, White Metal
Cords, Bell.
Couplings, Bell Cord.
Cuspidors.
Door Fittings, Car
Fans, Paddle, Car.
Faucets, Washstand and Cooler
Fixtures, Car Lighting.
Fixtures, Car Vestibule
Fixtures, Marine Lighting
Globes, Lamp and Lantern
Guides and Strap Hangers, Bell Cord.
Handles, Brake or Controller.
Handles, Grab, Car Platform or Vestibule.
Hangers, Bell Cord.
Hangers, Door, Car.
Hangers, Self-Oiling.
Hardware, Car.
Hardware, Marine.
Headlight Reflector Replating.
Headlights, Electric, Acetylene and Oil.
Hinges.
Holders, Car Door
Holders Locomotive Inspection Card.
Hooks, Coat and Hat.
Klinger Glass for Locomotive Water Gages.
Knobs, Door, Brass and Bronze.
Lamps, Bridge Signal
Lamps, Bunk.
Lamps, Car, Oil, Acetylene and Electric
Lamps, Coach, Tail
Lamps, Crossing Gate.
Lamps, Engine Classification
Lamps, Indicator, for Locomotives or Cabooses.
Lamps, Railway Crossing
Lamps, Railway Motor Car.
Lamps, Semaphore.
Lamps, Signal
Lamps, Slow and Stop.
Lamps, Switch
Lamps, Station
Lamps, Traffic
Lanterns, Gate
Lanterns, Railway.
Latches, Cupboard
Lavatories, Car
Lavatories, Car, White Metal.
Lavatories, Dental
Lavatories, Folding.
Lenses, Semaphore and Signal Lamp.
Lifts, Sash.
Lighting, Car, Electric, Acetylene and Oil.
Linings, Head, Car
Locks, Car.
Locks, Catches, Hinges and Handles, Passenger Car.
Locks, Sash, Car
Locks, Switch Railway.
Lights, Contractors' Acetylene.
Padlocks.
Racks, Hat and Baggage.
Ratchets, Deck Sash.
Roundels Glass.
Sash Openers, Deck.
Signs, Car.
Springs, Seat, Car.
Stops and Holders, Car Door
Straps, Hand, Car
Trimmings, Car
Ventilators, Car.
Wash Stands.
Window Operating Devices.
Wicks, Lamp.

The Adams & Westlake Company

Established 1857

CHICAGO

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Philadelphia
Mail Address
2218 Ontario St., Station E

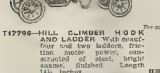
New York City
Mail Address
Hudson Terminal Bldg.
50 Church St.

Double Friction, Hill Climber and Momentum Steel Toys

T17807—MULE, ANIMAL TOY—Lexy Mule driven by a man seated on a chariot. Mule's head is so constructed that it nods with each step. Equipped with double friction motor. Will travel either forward or backward. Length 10½ inches ..... 8.75 — Per doz.

T18298—HILL CLIMBER ROADSTER WITH CHAUFFEUR—Friction motor power, constructed of steel, bright enamel finish. Length 11¾ inches ..... 2.00 — Per doz.

T17796—HILL CLIMBER HOOK AND LADDER—With crawfinger rear two ladders, friction motor power, constructed of steel, bright enamel, finished. Length 14¼ inches ..... — Per doz.



T17795—HILL CLIMBER PONY FREIGHT ENGINE—Strongly constructed of steel with friction drive, enameled red with gold trimmings. Length 18¾ inches ..... — Per doz.

T17798—HILL CLIMBER ONE COACH PASSENGER TRAIN—Strongly constructed of steel with friction motor power, enameled red with gold trimmings. Length 21½ inches ..... — Per doz.

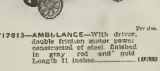
T17797—HILL CLIMBER PULLMAN CAR—Strongly constructed of steel with friction motor power, bright enameled colored. Length 13¾ inches ..... 9.00 — Per doz.

T17812—ARMORED AUTO—With cannons, double friction motor power, constructed of steel, finished in red green, and gold. Length 11 inches ..... 10.80 — Per doz.

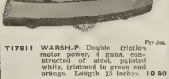
T17809—AUTOMOBILE DELIVERY—With 2 passengers, double friction motor power strongly made of steel, finished in enamel, red and gold. Length 12½ inches ..... 10.80 — Per doz.

T17810—TROLLEY CAR—Double friction motor power, strongly made of steel, painted red, trimmed with gold. Length 15 inches ..... 10.80 — Per doz.

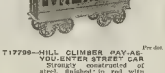
T17813—AMBULANCE—With driver, double friction motor power, constructed of steel, finished in gray red and gold. Length 11 inches ..... — Per doz.



T17811 WARSHIP Double friction motor power, 4 guns, constructed of steel, painted white, trimmed in green and orange. Length 15 inches 10.80 — Per doz.

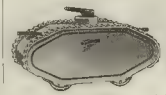


T17799—HILL CLIMBER PAY-AS-YOU-ENTER STREET CAR—Strongly constructed of steel, finished in red with gold trimmings. Length, 21¾ inches ..... 11.95 — Per doz.



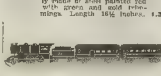
T17817—LIMOUSINE WITH DRIVER—Double friction drive, strongly constructed of steel, enameled in green and gold. Length, 12 inches 1.37 — Each

T17819—AEROPLANE—Double friction motor power, constructed of steel painted in yellow and gold. Length 11½ inches. Wing 11 inches ..... 1.37 — Each



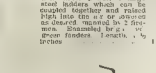
T17818—ARMORED TANK—Double friction motor power, 3 guns, constructed of steel, finished in orange green and gold. Length, 12¾ inches ..... 1.37 — Each

T17816—TRACTION CAR Double friction motor power strongly made of steel painted red with green and gold reflectings. Length 10½ inches. 1.37 — Each



T17800—HILL CLIMBER TWO COACH PASSENGER TRAIN—Friction motor power, painted red with gold trimming, constructed of steel. Length, 35½ inches. 11.95 — Per doz.

T17815—MOTOR AERIAL FIRE TRUCK With double friction motor power, 4 large steel ladders which can be coupled together and raised high into the air or operated as desired, running on 3 firemen. Enameled body, with green fenders. Length, 19½ inches ..... 1.47 — Each



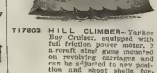
T18297—WATER TOWER with double friction drive tower can be adjusted to different heights. Length, 19½ inches 1.47 — Each

T17814—FREIGHT ENGINE AND TENDER—Double friction motor power, strongly made of steel painted red, trimmed in green and gold. Length 21 inches ..... 1.47 — Each

T17801—HILL CLIMBER ANTI-AIRCRAFT GUN AUTO—Equipped with full friction power motor aircraft steel guns mounted on revolving carriages and can be adjusted to any position and shoot shells furnished with each gun. Finished in army gray with gold trimmings. Length 13¾ inches ..... .62 — Each

T17802 HILL CLIMBER—Yankee Boy Cruiser, equipped with full friction power motor, 2 aircraft steel guns mounted on revolving carriages and can be adjusted to any position and shoot shells furnished with each gun, finished in khaki with green and gold trimmings. Length, 13 inches ..... 1.62 — Each

Steel Pull Toys



H18805—TOY WAGON—All metal, painted in red, length, 9 inches, height, 5¾ inches two dozen in box, not broken ..... 2.75 — Per doz.

H18807—TOY WAGON—All metal, 4 wheels painted green, body painted red, length, 12 inches 4 dozen to crate, not broken ..... 5.25 — Per doz.

H18808—TOY WAGON—All metal, 4 wheel steel construction, finished in bright red, wheels bright nickel, twisted rope tongue, length, 12 inches packed 1 dozen to package ..... 6.00 — Per doz.

PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

T17928—MECHANICAL FIRE ENGINE—With long spiral spring; length 10 inches. — Per doz. 8.50

T17929—MECHANICAL HOOK AND LADDER WITH DRIVER—Long spiral spring; length 11 inches — Per doz. 6.50

T18011—MECHANICAL DELIVERY CART—Clock spring and cover brake device; length 10 inches — Per doz. 6.50

T18012—MECHANICAL U. S. MAIL DELIVERY—Clock spring, body finished in blue, wheels finished in yellow, with brass 3.00

T18013—MECHANICAL DUMP CART—Clock spring, dumping body finished in blue enamel, with brass — Per doz. 8.75

T18273—SEDAN—With new perfection motor, simple and efficient, all steel body and double disc steel wheels, finished in bright colors, length 9¼ inches. Each in box..... Per doz. 1 92

T18278—LARGE SEDAN—Equipped with reversible motor and brake, steel body, strong double disc steel wheels, lithographed in three colors. Each in box..... Per doz. 4.00

T18274—TRUCK—With reversible motor, steel body, double disc steel wheels, lithographed in three colors; length 9½ inches. Each in box..... Per doz. 1.92

T18275—ROADSTER—Equipped with new reversible motor and brake, simple and efficient, rigid reinforced steel body, double disc wheels, lithographed in three colors, length 11½ inches. Each in box..... Per doz. 4 00

T17930—MECHANICAL FIRE ENGINE—Steel constructed running gear enameled yellow gilt roller with silver stripes, rubber tired wheels, length 10 inches each in box..... Each 1.17

T17933—MECHANICAL AUTO DELIVERY TRUCK With four barrels, spiral spring and driver, length 10 inches..... Each 1.14

T17934—MECHANICAL AUTO TRANSFER—Spiral Spring, steel wheels and driver, length 10 inches..... Each 1.25

T17931—MECHANICAL AUTO—With large custom mounted on rear, and shells on front with driver..... Each 1.33

T17700—CLIMBING MONKEY Made of metal in beautiful colors, climbs up and down, a favorite for every child; each in box..... Per doz. 2.88

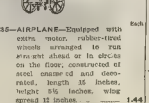
Alabama Coon Jigger

T17713—ALABAMA COON JIGGER—Mechanical dancing figure, lithographed in bright colors on tinned full height 10 inches, one in a box..... Per doz. 0.26

T18283—MECHANICAL WALKING TP TOP POINTER—With spring drive, lithographed metal length 6½ inches..... Per doz. 2.84

Aerial Spinner

T18104—AERIAL SPINNER—Educational construction mechanical toy, substantially made of highly finished, lithographed material; operated by rubber motor; packed knocked down in size lithographed box with complete instructions for assembly, stands 19 inches high when put up..... Each 1.10

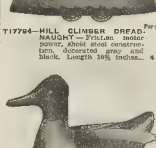


T17935—AIRPLANE—Equipped with extra motor, rubber-tired wheels arranged to run straight ahead or in circles on the floor, constructed of steel enameled and decorated, length 15 inches, height 5½ inches, wing spread 12 inches..... Each 1.44

Double Friction Hill Climbers and Momentum Toys

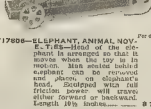
T17793—HILL CLIMBER TRUCK—Friction motor power, constructed of steel, enameled in attractive colors, length 10½ inches..... Per doz. 4.95

T17792—HILL CLIMBER LOCOMOTIVE AND TENDER—Friction motor power, steel construction, decorated in red and gold. Length 12½ inches..... Per doz. 4.95



T17794—HILL CLIMBER DREADNAUGHT—Friction motor power, finished cement-gun, decorated gray and black. Length 10½ inches..... Per doz. 4.95

T17908—TRICKY DUCK—With double friction motor power, constructed of steel, finished in white enamel with red, green and gold trimmings 7½ inches long, 9 inches high..... Per doz. 8.75

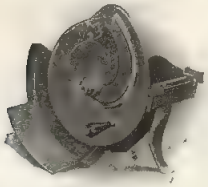


T17909—ELEPHANT, ANIMAL NOVELTY—Head of the elephant is arranged so that it moves when the toy is in motion. Man seated behind elephant can be removed and replaced by a monkey's head. Equipped with rubber friction power will travel either forward or backward. Length 10½ inches..... Per doz. 8.75

T17908—ROADSTER WITH CHAUFFEUR—Double friction motor power, constructed of steel, painted red, trimmed with gold. Length 11 inches Per doz. 8.75

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

DRIED BEEF CUTTERS.



STERLING SLICER.

A moderate price slicing machine for hotel, restaurant, steamship, boarding house and family.

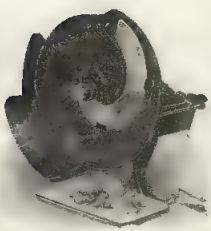
Will slice bread perfectly, will slice any cold meats, rolled ham, bacon of the width of four inches, cucumbers, tomatoes and all vegetables, thin as cardboard or ¾ inches thick. Will make the best Saratoga chips, the finest cabbage salad, and will cut up two hundred and fifty pounds of cabbage in an hour, all easily without any hard work.

This is the highest grade of cutter on the market. Can be used for slicing bacon, beef, cold boiled ham, hot bread, etc. The machine can be adjusted so as to slice as thin as tissue paper Can also cut a slice ¾ inch thick.

Fastens on table by a clamp, and can be easily removed when not in use. No gears, easily cleaned; made strong and solid.

Net each

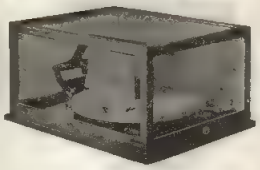
NO. 20 Sterling Slicer. **$50 00**



Net each

NO. 25—Sterling Slicer, same as No. 20, only larger, for butchers, grocers and delicatessen stores, etc.; width of trough 7 in .....

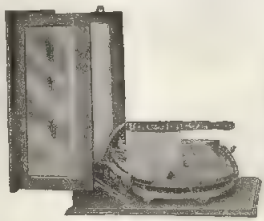
CHEESE CUTTER CABINETS.



Square.

Net each

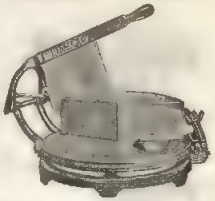
NO. 1—Royer, Size 15x21x25 in., glass sides and top; case only; no cutter .



Net each

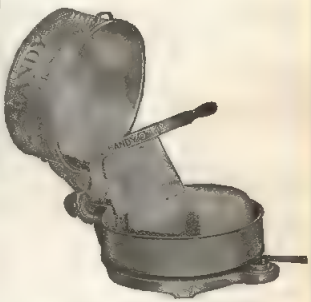
NO. 2 Anderson, size 15x21x25 in , glass sides, wood top, case only, no cutter **$33.50**

CHEESE CUTTERS.



Net each

Safe Computing Handsomely finished, cut of cheese always protected by knife guaranteed five years. **$40.00**



HANDY SANITARY CHEESE KNIFE.

Something Better.

In our Handy Sanitary Cheese Knife we have filled a long felt want. We not only have the most perfect cutter on the American market, but we have it combined with a dust-proof, fly-proof sanitary cover, which takes no more space than the cutter alone, and does away with the unsightly, cumbersome boxes. It is a protection to the cheese; a protection to the merchant; a nice fixture that absolutely increases the sale of cheese without loss.

The Handy Cutter is the most perfect piece of machinery of its kind ever invented. Our computing device is on the order of a combination to a safe; just as strong and just as accurate -there is no guess work here. When you put a cheese on it you know you are going to get your money out of it.

The Handy Cutter is so constructed that there are no parts to wear out, is nicely enameled and heavily nickeled; the knife is large and strong, is made of the best No 11 gauge steel, heavily tinned to prevent rusting.

The Handy Cutter is easily set, and when once set is automatic and computes perfectly. Full directions with each cutter. Net each

NO. 1 -Handy Sanitary Cheese Knife **$44 00**

She does a thousand times more work than her grandmother did. Neatly and easily she turns out five thousand letters in an hour. No wonder America is the world's pace-maker! Her great inventions have brought her unmatched wealth —by tremendously multiplying the power of her workers. The Mimeograph quickly reproduces all kinds of typewritten matter, drawings, plans, etc.—at negligible cost. First copies in a few minutes, and five thousand an hour thereafter. Private printing—in your own office, under your direct supervision. No especial training necessary. The Mimeograph is beating down expenses and increasing efficiency in unnumbered thousands of American institutions—for perhaps no other invention has so directly multiplied the power of the worker. Ask for interesting booklet "I" today. A. B. Dick Company, Chicago—and New York.

EDISON-DICK

MIMEOGRAPH

ELECTRIC LAMPS

PORTABLE AND TABLE

Attractive designs and finishes that will appeal to your trade and make an excellent display in your show room. Each lamp complete with plug and cord. Compare our prices.

LIBRARY TABLE LAMPS

2C3135—Ht. 20½ in., empire gold finish, 12 in. overlaid shade, amber glass, push socket. Each in wood case, 30 lbs. Each, **$6.95**

2C3138—Ht. 21 in., bronze finish, 16 in. overlaid Japanese shade, amber glass top green skirt, push socket. Each in wood case, 36 lbs. Each, **$7.50**

2C3140—Ht. 24 in., antique brass finish, 17½ in overlaid amber glass octagon shade, cerise border, 2 pull chain sockets. Each in wood case, 46 lbs. Each **$10.50**

2C3165—Ht. 23 in., 17 in. overlaid hexagon shade, amber glass & pull chain sockets. 1 in case, 35 lbs. Each, **$12.25**

2C3150—Ht. 23 in., bronze polychrome finish, 15 in. floral ornaments amber glass, sunset border 2 chain sockets. Each in wood case, 60 lbs. Each, **$13.95**

2C3155—Ht. 25½ in., antique brass finish, 18 in. overlaid amber glass shade, cerise border, 2 pull chain sockets Each in wood case, 65 lbs. Each **$17.25**

BOUDOIR ELECTRIC PORTABLES

Complete with hand decorated glass shades,

2C4557—Ht. 14 in., cast metal base, pink and white enamel finish, frosted shade, embossed pink rose with green foliage. 6 ft. parallel cord, Benjamin swivel plug. Each in mailing carton, 7 lbs. Each, **$3.95**

2C4560—Ht. 15 in., cast metal base, pink & white enamel finish, frosted leaf effect shade with scattered pink flowers, wired complete with push socket, 6 ft. parallel cord, Benjamin plug. Each in mailing carton, 8 lbs. Each, **$3.95**

WALLACE ELECTRIC PORTABLE

Nationally advertised. One of the most practical adjustable lamps on the market.

Ht. 12 in., solid brass satin finish, spring clamps to back of chair, bed, dresser etc., 6 ft. corrugated cord, wt. 1¾ lbs (without bulb)

2C3761—1 in carton. Each **$2.85**

2C3761P — Lots of 12 Each **$2.75**

ADJUSTABLE BRASS DESK LAMP

2C4530—Ht. 17 in., weighted bottom, adjustable at base and socket, brush brass finish, 6¾ in. white lined green shade, threaded and soldered connections. Benjamin swivel plug, association key socket, 8 ft. cotton parallel cord, 12 lbs. 1 in carton..... Each, **$3.85**

Constant study of the goods and prices in this catalogue is a profitable habit.

FLOOR LAMPS

Every number a proven seller. Bases and shades are artistic and beautiful. The color combinations offer a wonderful opportunity for display. Your sales are assured Bases wired complete with iron piping to pass underwriters' inspection Carefully packed in shipping container.

"Sling Toy," Mahogany Finish Base 72 in., turned wood base, 2 chain sockets 24 in silk shade, Jap figured and shirred panels, old rose, blue, mulberry and old gold, silk cords and tassels.

2C3035—Complete, 38 lbs. Each, **$17.75**

2C3033—Base, 1 in crate, 20 lbs. Each, **$8.50**

2C3034—Shade, 1 in carton 13 lbs. Each, **$9.50**

Specify Colors

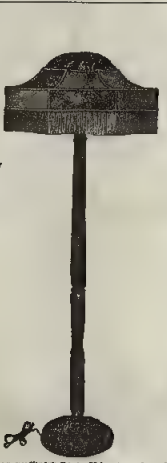
Mahogany Finish Base—68 in., turned wood, 3 pull chain sockets, 24 in. octagon silk shade, alternating plain and figured panels, trimmed with 3 rows silk braid, rose, blue or rose lined.

2C3045—Complete, base and shade, 35 lbs. Each, **$20.25**

2C3046—Base only. 1 in crate 25 lbs. Each, **$9.75**

2C3047—Shade only. 1 in carton, 10 lbs. Each **$10.75**

Specify Colors



Mahogany Finish Base—68 in. turned wood 2 key sockets, 24 in silk shade, plain and figured panels mulberry & tan lined with rose, tan & rose lined with blue, or blue & rose lined with rose.

2C3021—Complete, base and shade, 35 lbs. Each **$25.50**

2C3022—Base only. 1 in crate, 19 lbs. Each, **$10.75**

2C3023—Shade only. 1 in carton, 10 lbs. Each, **$14 75**

"FLEX-LITE" FLOOR LAMP

A very convenient lamp for reading and fine work. Adjusts to any angle.

2C3376—Electric, ht. 60 in., Flemish finish, adjustable gooseneck, heavy weighted base, wired complete, key socket, 8 ft. mercerized parallel cord Benjamin swivel plug 1 in crate, 35 lbs. Each, **$4.50**

FIXTURES ELECTRIC LIGHTING

The demand for electric lighting fixtures is ever on the increase. Practically all homes that are built today are equipped with electricity and many old homes are being wired. It is possible to build up a big business in this line. The profit on each sale is great enough to make it worth your while to push the line. You will find the fixtures we show neat and attractive. They will appeal to your trade and give satisfaction NO PACKAGE CHARGE on these goods

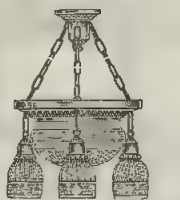
DIRECT AND SEMI-INDIRECT FIXTURES

2C2844-49S

Floral Embossed, Frosted—15 in over all, 4 lights, embossed brushed brass and black canopy, fancy cast bowl holds 2¼ in socket covers, wired, 3 key sockets outside, 1 keyless inside 16 in floral embossed deep frosted bowl 3 shades to match 1 in case 50 lbs

2C2856 — Complete with plain frosted glass Each. $9.50

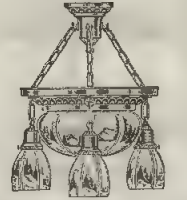
2C2864—Complete with frosted glass, blue floral spray, pale green leaves Each. $11.50



2C2857

2C4085—Shades only plain frosted ½ doz in box Doz. $2.25

2C4086—Shades only, blue floral sprays pale green leaves ½ doz in box Doz $3.75

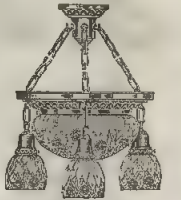


2C2813

Leaf Embossed, Frosted—39 in over all, 4 lights, embossed brushes brass and black, 19 in ring, 10 in fitter 2¼ in socket covers, wired, 3 key sockets outside 1 keyless inside, 10x15 frosted embossed all over leaf design, goldenrod pink tinted flowers, 3 shades to match.

2C2857—Complete in case, 60 lbs. Each, $12.75

2C4086—Shades only ½ doz. in box Doz. $3.50



2C2865

Embossed Opal Glass, Frosted—39 in over all, 4 lights, embossed brush brass and black canopy, 19 in ring 10 in fitter 2¼ in socket cover wired, 3 key sockets outside, 1 keyless inside, embossed 10x15 frosted opal bowl, brown tinted flowers, 3 shades to match

2C3213—In case, 60 lbs Ea. $13.75

Colored Landscapes, Frosted—19 in. over all, 4 lights, embossed brushed brass and black, 19 in long, 10 in fitter 2¼ in socket covers, wired 3 key socket covers, wired 3 key sockets outside, 1 key less inside, 10x15 paneled frosted shades, landscape panels blue sky green fir trees, snow capped hills 3 shades to match.

2C2865—Complete in case, 60 lbs Each, $17.50

2C4109—Shades only, ½ doz. in box ..... Doz. $8.75

DIRECT AND SEMI-DIRECT BODY FIXTURES

Brown Finish Rich in dec brown high lights on bright gold, spun brass body canopy and sockets cover, cast arms wired key sockets, ivory finish, opal shades in brown relief 1 in case

3 LIGHTS Length 36 in spread 12

	Each
2C2863A Without glassware	$ 9.00
2C2863B With glassware	11.25

4 LIGHTS Length 36 in spread 16

	Each
3C2864A—Without glassware	$10.95
3C2864B—With glassware	13.25

Jap. Gold Finish—Dk. chocolate color, hand and ornaments in bright gold, sockets fitted for 1-45 globes, but may also be used with any 2¼ in. electric shade, wired, key sockets and crowfoot 1 in case.

4 LIGHTS Length 36 in spread 21

2C2863A—Without bulbs	Each, $14.50
2C2863B—Complete with four 25 watt round frosted bulbs	Each. $16.50

5 LIGHTS—Length 36 in spread 18

2C2864A—Without bulbs.	Each, $16.50
2C2864B—Complete with five 25 watt round frosted bulbs	Each. $19.00

Jap. Gold Finish—Dk. chocolate color, high lights in bright gold, spun brass body, canopy and socket covers, cast arms and ornaments, wired, key sockets and crowfoot, genuine floral cut iridescent shades.

5 LIGHTS Length 36 in spread 12 in Each

2C2860A—Without glassware	$ 9.50
2C2860B—With glassware	11.75

4 LIGHTS—Length 36 in. spread 16 in Each

2C2861A—Without glassware	$11.75
2C2861B With glassware	14.75

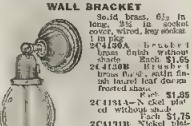
2C2862—Complete in case, 60 lbs.

2C41 0—½ doz. in box Doz $9.25

SEMI-INDIRECT FIXTURE

2C3237—**Embossed Frosted opal**, 42 in over all one light 3 chain hanger, old brass finish, wired keyless socket receiver, deep frosted opal bowl embossed wreath and panels 4 ft cord 26 lbs Each $5.50

WALL BRACKET



Solid brass, 6½ in long, 3½ in socket cover, wired, key socket 1 in pkg

2C4136A—Brushed brass finish without shade Each $1.65

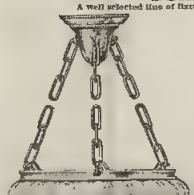
2C4136B—Brushed brass finish, satin finish laurel leaf design frosted shade Each $1.95

2C4134A—Nickel plated without shade Each $1.75

2C4134B—Nickel plated, satin finish laurel leaf design frosted shade Each $2.00

Semi-Indirect Bowl Lighting Fixtures

A well selected line of fixtures suitable for living and dining rooms. They will be sure to appeal to your trade. No package charge



Frosted Opal—36 in. over all one light, fancy frosted opal bowl 12x11 embossed lotus leaf design, brush brass canopy and 3 chain hanger, wired keyless socket and crowfoot

2C4170 1 in case 30 lbs Each ★4.75

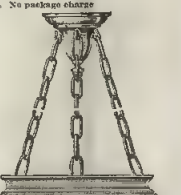
In lots of 6 only Each ★4.50

Frosted Opal—3 chain hanger, old brass finish wired keyless sockets, crowfoot. 15 in. frosted opal bowl, swirls tongue design

2C2556 1 in case, 30 lbs Each, **$4.95**

Floral Embossed Frosted 36 in. over all, one light 3 chain hanger, old brass finish, wired keyless socket, 13 in. frosted bowl embossed pink roses and green leaves.

1C2823—1 in case, 30 lbs. Each, **$5.00**



Hand Painted, Frosted—36 in. over all, one light, brush brass canopy with bowl hooks and 3 chain hangers, 14 in. frosted bowl, hand painted American Beauty rose panels.

2C2866—1 in case, 35 lbs. Each, **$5.95**

POPULAR HEATING PADS

All for 110 volt alternating or direct current unless otherwise stated.

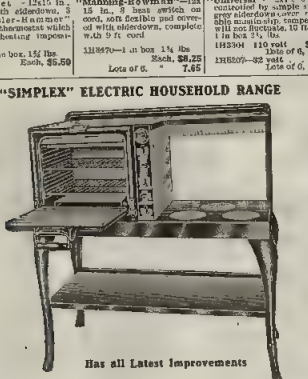
"Hold-Heet"—12x15 in., covered with elderdown, 3 heat "Cutler-Hammer" switch and thermostat which makes overheating impossible
1H15.50—1 in box, 15¼ lbs.
Each, $5.50

"Manning-Bowman"—12x15 in., 3 heat switch on cord, soft flexible pad covered with elderdown, complete with 9 ft cord
1H3870—1 in box 1¾ lbs.
Each, $8.25
Lots of 6, " 7.65

"Universal"—9x15 3 heats controlled by simple switch, grey elderdown cover, comfortable mattress tip, temperature will not fluctuate, 10 ft. cord
1 in box 3½ lbs.

	Each
1H3304 110 volt	$ 8.75
Lots of 6, "	8.32
1H15709—32 volt	10.50
Lots of 6, "	9.98

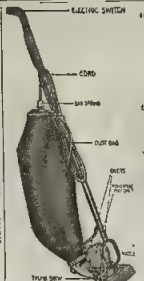
"SIMPLEX" ELECTRIC HOUSEHOLD RANGE



Has all Latest Improvements

1H5110—Sheet steel body, black enamel finish, white enamel splashers back and side, vertical elevated control panel, removable splasher at side of switch panel three cooking units each equipped with 7 inch disk plate, oven element 9x12 and 8x12 hot plates each approximately 7 inch diameter with 6 heat switch and element, extra resistance wire for each element to make 9 heats, oven door has heavy cast handle and drop panel, oven lined with asbestos board, heavy asbestos insulation, oven thermometer, oven shelf adds strength to range floor panel, operating from 110 volt direct or alternating current, special stove pipe 8 x 5 high, 6 inch diameter, fully guaranteed to be mechanically perfect. 1 in crate, wiring required to install 305 lbs.
Each, $131.25

"RAYVAC" ELECTRIC VACUUM CLEANER AND ATTACHMENTS

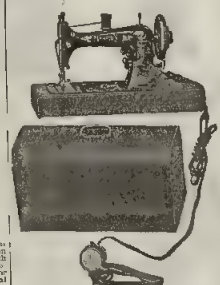


For 110 volts direct and alternating current. Guaranteed to be mechanically perfect.

Vacuum Cleaner—Small motor in solid cast aluminum case, 11 in nozzle with brush inside to pick up threads, lint, etc. special fabric dust bag attached to motor case and handle easily removed and cleaned, nickeled metal on handle which makes it easy to operate 45 in black enameled handle, nickeled braces, 30 ft. of black electric cord and socket
1H6273—Each in heavy corrugated carton, 10 lbs.
Each, $24.00 Lots of 6 **$22.50***

Attachments—Comprise 8 ft. of 1 in spiral and black cloth covered vacuum hose, hose connector for nickel plated extension tube, nozzle for curtains and mattresses, cloth brush and blower nozzle, 6 pair in set.
1H6274—Each set in heavy corrugated carton
SET (6 pcs.), **$6.50**

"MANSION" PORTABLE ELECTRIC SEWING MACHINES



Complete with "New E-Z" universal motor for direct or alternating current and full set of attachments. Quarter sawed oak base. Complete machine is enclosed in selected thoroughly seasoned quarter sawed one case about size of a typewriter golden oak finish.

1H6782—¼ size, vibrator type. Up-to-date features, long shuttle side tension, automatic bobbin winder positive four-motion feed, positive take-up, self-threading shuttle, self-setting needle, positive stitch regulator complete with cord, 38 lbs. 1 in case, 58 lbs.
Each **$36.00**

1H6785—Full size, vibrator type. Sewing head has full size high arm lock stitch, self-locking vibrator head, 4 motion feed movements, disc tension, automatic bobbin winder, self-threading shuttle, positive stitch regulator complete with cord, 38 lbs. 1 in case, 58 lbs.
Each **$39.00**

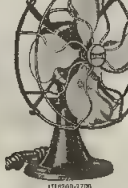
1H6787—Full size, rotary type. High grade high arm stitch formed by rotating hook instead of the usual shuttle, sews forward and backward, ten end of seam, thread feed four sided or [illegible] automatic oil sealed bearings, automatic bobbin winder, positive take-up, automatic release, positive forward take-up, automatic bobbin winder. 1 in case, 58 lbs.
Each **$45.00**

ELECTRIC FANS

To become the leader in the electric fan business you must carry a dependable line at correct prices. The makes of fans we have selected are well known and have a reputation for reliability. Our prices will stand the closest comparison. By ordering your needs here you get right goods at right prices. Compare—then order

NOTICE—These fans are under no circumstances to be returned unless defective in manufacture. It is absolutely necessary when ordering fans that you give the correct voltage, current, whether alternating or direct, and number of cycles. You can easily obtain this information from your electric light company

1H6694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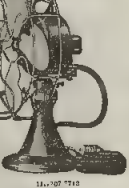
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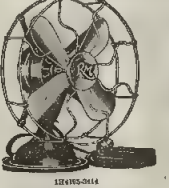
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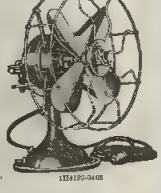

1H6192-3405

1H7726-6314

"POLAR CUB"

Adjustable to any angle, 4 blades and wire guard of cast frame japanned finish, swivel head, one or 2 speeds and step, operation on direct or alternating current can be attached to wall, complete with 8 ft cord and plug. 1 in carton. 110 volts.

1H7689—8 in., 11 lbs. 8 in., 13½ lbs.

		Each
Lots of	6, "	$4.90
"	12, "	4.75
"	24, "	4.75
"	50, "	4.75

1H7694—9 in., 11½ lbs. 9 in., 13½ lbs.

		Each
Lots of	6, "	$7.50
"	12, "	7.30
"	24, "	6.90
"	50, "	6.75

"NORTHWIND"

4 blades, universal motor operates on direct or alternating current, 110 volt starting switch in base fan, with 4 tension oak leather bound, heat tags with wire fitted at 4 wells complete with cord 1 in carton

	Each
1H7726—8 in., 2 speed, 6 ft cord	$ 9.18
1H6514—10 " 3 " 8 "	18.58

"EMERSON"

Polished brass blades and black enameled guard, japanned base. Each in box with cord

Oscillating

Swivel adjustment for swinging from side to side, semi-silent, 4 different directions. 1 in box

Direct Current—110 volts, 60 cycles	Each
1H7707—9 in.	$24.67
1H7708—12 "	32.00
1H7709—16 "	36.00
Alternating Current—	
1H7710—9 in.	$25.88
1H7711—12 "	33.44
1H7712—16 "	37.13

Stationary

Guaranteed 3 speed regulator, swivel and trunnion feature which permits air to be thrown in any direction. 1 in box

Direct Current—110 volts 60 cycles	Each
1H7695—9 in.	$19.18
1H7696—12 "	24.67
1H7697—16 "	29.25
Alternating Current—	
1H7698—9 in.	$19.32
1H7700—12 "	25.14
1H7701—16 "	30.57

"R. & M" STANDARD DESIGN

Made by Robbins & Meyers

Stationary

Drawn steel frame, light weight wide base, dark japanned striped on good, polished brass blades, 8 ft. cord and plug. 1 in box.

Direct Current—32 volts.	Each
1H4195—8 in.	$10.00
1H4196—9 "	17.20
1H4197—12 "	24.00
1H4198—16 "	29.00
Direct Current—110 volt.	
1H3406—12 in.	$24.00
1H3412—16 "	28.00
Universal Current—110 volt.	
1H4199—8 in.	$10.00
1H4222—9 "	17.20
Alternating Current—110 volt	
1H3413—12 in.	$24.00
1H194.—16 "	28.00

Oscillating

Light weight drawn steel frame black japanned and striped brass blades mechanism gear and later base covered with felt pad, hinged joint for attachment to wall, while frame has wide swivel for [illegible] tipping, 8 ft. cord and plug. 1 in box.

Direct Current—32 volt.	Each
1H4189—9 in.	$22.00
1H4190—12 "	31.20
1H4193—16 "	36.00
Direct Current—110 volt.	
1H3405—12 in.	$31.20
1H3405—16 "	36.00
Universal Current—110 volt	
1H4194—9 in.	$22.00
Alternating Current—110 volt	
1H3414—12 in.	$31.20
1H7706—16 "	36.00

For Nearly a Century the Store of Service.

EMMERT UNIVERSAL MACHINISTS' AND PATTERN MAKERS' VISES

UNIVERSAL MACHINISTS' VISES

VISE IN ITS NATURAL POSITION FOR HANDLING ROUGH CASTINGS

Fig. 12006A

This Emmert Vise is so constructed as to be used in any conceivable position. It is supplied with one set of grooved jaws to hold all classes of round work, one set of jaws which will hold any class of taper work, one set to hold copper work, and one set to hold any size ring. It is also supplied with a rough jaw for cast iron work, with one smooth jaw for finished work

VISE AT ANGLE TO BRING WORK TO A POSITION TO BE WORKED ON WITH CONVENIENCE TO THE WORKMAN

Fig. 12006B

Number	4A	6A
Size of Jaw ..... inches	4	3
Opens .. "	6	5
Weight pounds	100	55
Price ..... each	30.00	25.00

UNIVERSAL PATTERN MAKERS' VISES

NORMAL POSITION OF VISE ON BENCH WITH JAW AT AN ANGLE FOR TAPERED WORK

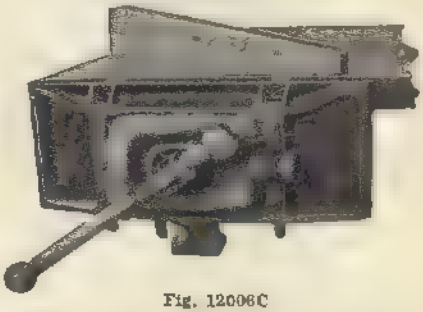


Fig. 12006C

The Emmert Universal Pattern Makers' Vise has seven pairs of jaws, so that it is adapted to grasp any kind of work without regard to irregularity of form

Size of jaws: One pair, 18 inches wide; three pairs, each 7 inches wide; two other pairs, each 1 inch wide and one pair, 3 inches wide. These jaws are steel faced and slightly roughed for holding metal work.

VISE REVERSED TO HOLD WORK ABOVE THE BENCH

Fig. 12006D

Number	1	2
Size of Jaw .... inches	7x18½	5x14
Opens ..... "	14	12
Weight ..... pounds	86	56
Price ..... each	27.50	25.00

RICHARDS-WILCOX WOODWORKING VISES

No. 430 HEAD OR SIDE VISE

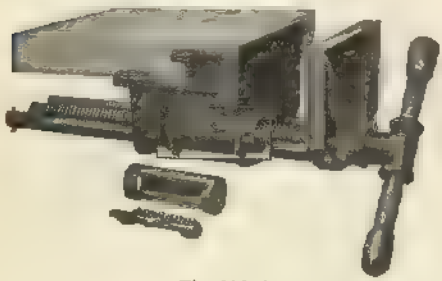


Fig. 9162A

No. 430S TAIL VISE WITH BRASS STOP IN FRONT JAW

Fig. 9162B

Nos. 430 AND 430S RAPID-ACTING VISES

Equipped with our new two-piece cam-operated nut. Simple in mechanism and absolutely reliable in operation and will not get out of order, as there are no small parts to wear out. The nut proper is phosphor-bronze and the nut sleeve is gray iron.

Instantaneous adjustment, continuous in action, operates entire length. Nut is released and completely disengaged when pressure on work is removed by slight reverse movement of the handle. When pressure is applied nut engages and locks screw firmly and is held rigidly in position. No pawls, rocks or triggers to break or wear. Guide rods are of cold rolled steel, the ends connected by malleable iron yoke which maintains perfect alignment. Jaws are of the best gray iron with working surfaces, ground and finished. Special design of ribs on jaws secures minimum deflection or spring under pressure, and weight either type. Can be made specially to open any desired length. Jaws furnished with maple faces if wanted.

		430x1	430x2
Number			
Width of Jaws	inches	7	10
Depth " "	"	4	5
Jaws Open	"	10	12
Diameter of Screw	"	1	1
Threads to the Inch on Screw	"	4	4
Weight	pounds	32	42
Price, No. 430	each	12.00	14.40
" " 430S	"	13.20	15.60
Maple-faced Jaws	per pair	1.00	1.00

Fig. 9162C

No. 530 MIDGET RAPID-ACTING VISES

Designed especially for light pattern making, watch and clock repairing, etc., and has same features as above vises. Jaws, 3½ inches wide, 2 inches deep, 3 inch opening. Handle, 5½ inches long. Screw, ½ inch in diameter, 8 threads to the inch. Weight, 3¾ pounds.

Price..... each 5.00

Write us Your Requirements for Goods Not Listed.

ERIE

Single and Double Frame Steam Hammers

fulfill efficiently every known hammer requirement. We conscientiously offer them in the knowledge that they are the best of all that are good, and will render a service under any conditions highly satisfactory to the user.

Built for either steam or air operation, in sizes from 250 to 12,000 lbs. Every part fully guaranteed

Send for Catalog F.

Erie Foundry Co.
ERIE, PA., U.S.A.

CHAMBERSBURG

HAMMERS HYDRAULIC MACHINERY

HAMMERS for every variety of forging

HYDRAULIC machinery of every description

ECONOMICAL
RELIABLE
EFFICIENT

Send for Catalogs and descriptive matter

CHAMBERSBURG ENGINEERING COMPANY
CHAMBERSBURG, PA., U. S. A.

Hammers, Riveting, Pneumatic

Canton Pneumatic Tool Co., Canton, O.
Chicago Pneumatic Tool Co., 1012 Chicago Pneumatic Bldg., New York ..See Page 7
Eighty per cent of the riveting and chipping hammers used throughout the world are "Boyers." They are the standard by which other pneumatic tools are gauged, which accounts for their being prevailing favorites where pneumatic tools are used.
Cleveland Pneumatic Tool Co., The, 3734 E. 78th St., Cleveland, O.....See Page 7
The "Cleveland" Pocket-in-Head Riveter, No. 90, has made an enviable reputation in driving 1¼" rivets in Scotch marine boilers, and the No. 30 in driving 1¾" steam rivets under most exacting hydrostatic tests. Descriptive Bulletin No. 46 gives full particulars.
Duntley-King Pneumatic Tool Company, 1143-1145 Diversey Parkway, Chicago. ..See Advt. Index, Page 7
DUNTLEY KING Riveting Hammers are equipped with the patented DUNTLEY-KING "Sleeve Valve," eliminating valve breakage, providing a continuous action, long wear, minimum upkeep, greater power and speed.
Helwig Mfg. Co., St. Paul, Minn..See Page 7
Independent Pneumatic Tool Co., 599 W. Jackson Blvd., Chicago.....See Page 7
The main feature and the great advantage of this long stroke riveting hammer is in its one-piece construction. The handle, barrel and valve chambers are all in one solid piece of steel forging. All other makes of riveting hammers are made in three main parts—barrel, valve block and handle—necessitating the use of couplings, clamps, bars, lock nuts and other complicated mechanism, which frequently break, become loose and cause considerable delay, annoyance and expense by the necessity of their having to be renewed or tightened.
The main valve lies parallel with the main bore, but is not directly operated with the air in the downward stroke. When the piston returns, it opens what is termed the auxiliary valve, the purpose of which is to admit a slight amount of air, which lightly starts the piston downward, and also supplies air for the power stroke. After short travel in the downward direction, the main valve opens and admits the full volume of air direct and very close to the piston. The piston, therefor, from a gentle start gets an extremely forceful and quick acting blow and quicker return, with practically no vibration. On account of its one-piece construction, the hammer is lighter and shorter than any other make. There is no part of the hammer than can possibly work loose from vibration. All parts are easily accessible. The throttle valve is arranged so that a light or heavy blow can be given at will. The one-piece long-stroke riveting hammers have no delicate mechanism are very easily handled and operated, and do very effective work.
Ingersoll-Rand Co., New York....See Page 7
"Little David" may be had with outside trigger, open or closed handles or inside trigger with closed handles and with or without a simple, reliable and effective safety rivet set retainer.
Kellogg Pneumatic Tool Co., Grand Haven, Mich.....See Advt. Index, Page 7

Hammers, Riveting, Rotary

High Speed Hammer Co., Inc., The, Rochester, N. Y.
Williams, White & Co., Moline, Ill.

Hammers, Rubber See Mallets, Rubber

Hammers, Scaling, Pneumatic

Canton Pneumatic Tool Co., Canton, O.
Chicago Pneumatic Tool Co., 1012 Chicago Pneumatic Bldg., New York..See Page 7
Cleveland Pneumatic Tool Co., The, 3734 E. 78th St., Cleveland, O ..See Page 7
Duntley-King Pneumatic Tool Company, Chicago.
Helwig Mfg. Co., St. Paul, Minn.
Independent Pneumatic Tool Co., 599 W. Jackson Blvd., Chicago .....See Page 7
Ingersoll-Rand Co., New York....See Page 7
Keller Pneumatic Tool Co., Grand Haven, Mich.....See Advt. Index, Page 7
Oldham & Son Co., Geo., Philadelphia, Pa.

Hammers, Slaters'

Anderson Tool & Sup Co. W H, Detroit, Mich.
Berger Bros. Co., Philadelphia, Pa.

Hammers, Spring

Star Expansion Bolt Co., New York.

Hammers, Steam

Beck & Corbitt Iron Co., 1932-1944 Main St., St. Louis, Mo. . See Advt. Index, Page 7
Chambersburg Engrg. Co., Chambersburg, Pa. (Single and Double Frame.).....
.....See Advt. Index Page 7
Erie Foundry Company, Erie, Pa See Page 7
Single and Double Frame Types, 250 to 20,000 lbs. Perfect hammers in every detail. Suited to a wide range of service.
Foss Machinery Co., Inc., The Geo F New York.
Industrial Works, Bay City, Mich.
Massillon Fdry. & Machine Co., Massillon, O.
McDougall & Potter Co., New York.
Mid-Continent Equipment & Machinery Co., St. Louis, Mo
Morgan Engineering Co., Alliance O.
Niles-Bement-Pond Co., New York .....See Advt. Index, Page 7
Sellers & Co. (Inc.), Wm., Philadelphia, Pa.
United Engineering & Foundry Co., 2305 Farmers Bank Bldg., Pittsburgh, Pa. .....See Advt. Index, Page 7
Zelnicker Supply Co., Walter A., St. Louis, Mo.

Hammers, Tilt

Niles-Bement-Pond Co., New York.

Hammers, Tinners' See Tools, Tinners'

Hammers, Tool Dressing, Automatic

Barr, Engineers, H. Edsil, Erie, Pa.
Erie Foundry Company, Erie, Pa...See Page 7

Hammers, Trip

Armstrong Mfg Co., Waterloo, Ia.
Beaudry & Co., Boston, Mass.
Holt Mfg Co., Stockton, Cal.
Nasel Engr & Mach. Wks., Philadelphia, Pa.
Niles-Bement-Pond Co., New York.
Scranton & Co., New Haven, Conn.

Hammers, Universal, Electric

Chicago Pneumatic Tool Co, 1012 Chicago Pneumatic Bldg., New York..See Page 7

Hammers, Vacuum

Williams, White & Co., Moline, Ill.

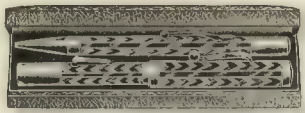
Hammers, Welding, Automatic

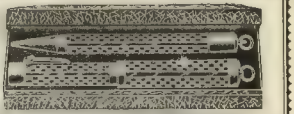
Barr, Engineers, H. Edsil, Erie, Pa.

Hammers, Welding, Locomotive Frame

Niles-Bement-Pond Co., New York.
Sellers & Co. (Inc.), Wm., Philadelphia, Pa.

Combination Fountain Pen and Pencil Sets





No. 655500. Combination Fountain Pen and Pencil Set. Pen is made regulation size of hand turned vulcanized hard rubber barrel with basket weave, chased gold filled mounting over all, attached safety clip, lever self-filler, safety screw non-leaking cap, filled with 14k solid gold pen. **Pencil** matches pen in material and design. Always sharp fine lead ready for use, with an extra supply of leads at top under rubber eraser. Refills at point, attached safety clip. Each set in fancy velvet lined box. Per set.. **2.50**

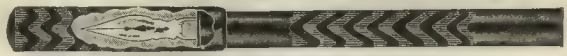
No. 655501 Combination Fountain Pen and Pencil Set. Ladies' or vest pocket size. Consists of vulcanized hard rubber barrel with basket weave chased design, gold filled mounting over all, lever self-filling, safety screw non-leaking cap with ring, fitted with 14k solid gold pen. **Pencil** matches above pen in material and design with ring. Always sharp fine lead ready for use; extra supply of leads under rubber eraser. Refills at point. Each set in velvet lined box. Per set..... **2.50**

Gold Filled Self-Filling Fountain Pens

No. 65877. Fountain Pen. Self-filling regulation size. Consists of hand turned vulcanized hard rubber barrel with basket weave chased design, gold filled mounting over all, attached safety clip. Lever self-filler, safety screw non-leaking. Cap fitted with 14k solid gold pen. Each in box. Each **2.00**

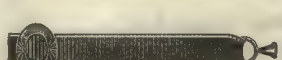
No. 65876. Fountain Pen. Ladies' or vest pocket size. Consists of hand turned vulcanized hard rubber barrel with basket weave chased design, gold filled mounting over all. Lever self-filling, safety screw, non-leaking cap with ring. Fitted with 14k solid gold pen. Each..... **2.00**

Ever Ready Self-Inking Pen



No. 5882. Ever Ready Self-Inking Pen. In design, appearance and finish it is the same as any fountain pen. Fitted with patent steel pen; under the point is held securely an indelible ink tablet, which, when dipped in water, will write the same as any ordinary pen when dipped in ink.
Per gross ..... **9.00** | Per dozen ..... **.80**

Silk Ribbon and Cord Sautoirs for Attaching Pencils



No. 8873. Silk Sautoir, ⅝-inch Silk Gros Grain Ribbon with gold filled slide and swivel, 18 inch.
Per dozen **4.50**

No. 8874. Black Silk Sautoir Cord, gold plated trimmings, length 38 inches, with swivel and ball slide which permits its being lengthened or shortened at will. Per dozen..... **3.00**

Solid 14-K. Gold Fountain Pens

Popular Styles **Big Sellers** **Best Values**

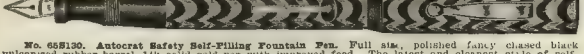
No. 65E10. The Ajax Solid Gold Fountain Pen. A very neat design, hard vulcanized rubber barrel, pen and unscrews, is positively airtight. Can be carried in the pocket. Fitted with a solid gold 14k pen, flexible rubber bridge and reversible protecting cap. As a value it is a fine one. Each in box with filler
Per dozen ..... 5.35 | Each ..... .50

No. 65E110. Self-Filling Fountain Pen. Extra full size, genuine rubber barrel, chased pattern, with a round hole opening on side of barrel. In size exactly to admit the ball of the clip. By gently pressing the clip through the hole it causes a suction of the rubber receptacle inside which draws it full of ink. Solid gold 14k pen. Each with a steel ball clip holder.
Per dozen ..... 6.00 | Each ..... .55

No. 65E75. Fountain Pen. Fine quality black rubber barrel, heavy shape. The entire cap and greater part of the barrel are covered with a richly embossed mounting, gold plated. The embossing is in various patterns assorted. All very flashy. Looks like solid gold pen intended to sell for high price. Neatly shaped, tapering to point, which unscrews, full size, solid gold pen. Certainly very neat and rich. Each in box with dropper. Per dozen..... 6.00 | Each ..... .55

Fine Solid Gold Fontain Pens

No. 65E120. Autocrat Lever Self-Filling Fountain Pen. 14k solid gold, medium size pen, full size polished vulcanized rubber barrel, fancy chased design. Fills instantly without soiling fingers. Slip-on cap with ball end nickeled clip. Individual boxes for each pen; 12 pens on display card.
Per dozen ..... 8.25 | Each ..... .75



No. 65E130. Autocrat Safety Self-Filling Fountain Pen. Full size, polished fancy chased black vulcanized rubber barrel, 14k solid gold pen with improved feed. The latest and cleanest style of self-filling. Screw cap with attached nickel safety clip.
Per dozen ..... 12.00 | Each 1.15
No. 65E134. Autocrat Safety Lever Self-Filling Fountain Pen. Same as above, only shorter size for vest pocket or for ladies.
Per dozen ..... 12.00 | Each 1.15

No. 65E20. Autocrat Fountain Pen. Solid gold 14k, medium size pen. Platinum point fine, smooth writer, high grade polished rubber barrel, fancy chased, knurled tip. Unscrews, improved bridge feeder, safety screw cap. Each pen furnished with a steel ball, nickel plated clip. An excellent outfit; complete with filler in box.
Per dozen ..... 12.00 | Each 1.10

Chatelaine Self-Filling Fontain Pen

No. 65E141. Chatelaine Self-Filling Fountain Pen. Ladies' and vest pocket size, hand turned, vulcanized hard rubber barrel, highly polished finish, mottled in assorted colors. Ring end. Worn with Sautoir ribbon. Lever self-filling. Non-leakable screw safety cap, fitted with 14k solid gold pen. Each in box. Per dozen ..... 16.00 | Each 1.40

¶ If we could bring you through the plant where Le Roi Motors are made, you would see the diligent care and ingenious craftsmanship that is built into every motor.

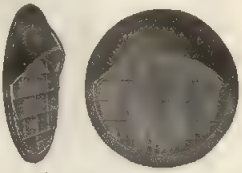
¶ Every little detail of balance and finish on a Le Roi is given the care typical of men who love the motors they make.

¶ The reward for this careful manufacture is reaped in every field where Le Roi Motors are furnishing the pulse of power in machines of many descriptions.

LE ROI COMPANY
MITCHELL ST. AND 60TH AVE.
MILWAUKEE, WIS.

MACBETH LENS

AN AUTOMOBILE HEADLIGHT LENS WHICH IS BUILT ON THE SAME FUNDAMENTAL PRINCIPLES OF LIGHT CONTROL AS THE MARVELOUS MACBETH LIGHTHOUSE LENSES.



THE green visor and the scientifically accurate prisms on the front, together with the concave recesses on the back, eliminate all glare and give long range and side lighting necessary for safe driving. The Macbeth Lens is distinctive—this because of the green visor.

It took four years to develop the Macbeth Lens, and it takes 72 hours to manufacture one lens. It has solved the headlight problem

Macbeth Lenses are made in all sizes to fit standard lamps.

Price List

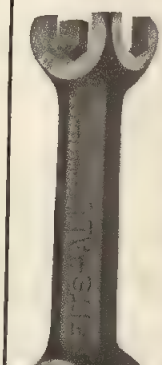
All Sizes	$5.00	per pair
Denver and West	5.75	" "
Canada	6.00	" "
Winnipeg and West	6.50	" "

Macbeth-Evans Glass Company
Pittsburgh

Stop Grinding Valves

Savidge valve refacing tools will face valve and seat to perfect accuracy in only a fraction of the time required for grinding—they cannot, in fact, give other than precision work. Are better than a machine lathe. Write for prices.

Eclipse Manufacturing Co.
Indianapolis, U. S. A.



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One Wrench

For Every Nut and Bolt?

Impossible!

No, It's Not! The

FITS-ALL
UNIVERSAL
WRENCH

fits every nut from 5/16" to 1 1/8" and every spark plug. Sell this all-in-one handy wrench and you can dispose of hundreds of them. Motorists will buy them immediately.

Wrench is made of 50 pt. carbon steel, hardened and tempered and fully guaranteed. Will replace without question if broken

List price: $1.25, small size; $1.50 large.

JOBBERS: Your discounts are large. Send for sample wrench and full particulars. Tell us how many wrenches you can sell

Commercial Service Co., Inc.
4 Flint Street
Providence R. I.

COASTER SLEDS.

STEERING.

KING KOASTER®

Made of First Quality Second Growth Ash; Natural Finish, Weather-proof Varnished and Striped; Highest Quality Flexible Spring Steel Shaped Runners, with Long Bearing Surface on Snow in Front of Forward Knees, insuring Perfect and Easy Steering, Braced with Pressed Steel Knees; All Parts Strongly Riveted; All Metal Parts Enameled in High Gloss Vermilion Color; Fitted with Steering Bar convenient for hands or feet, enabling rider to guide easily without the dragging of feet that is necessary with the Ordinary Sled.

SIDE RAILS ¾x⅝ IN.

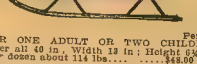
	Per Dozen
‡No. 10—32x12 in. over all; 6 in. High; Weight per dozen about 84 lbs.	$39.00
‡No. 11—36x13½ in. over all; 6 in. High; Weight per dozen about 90 lbs.	46.00
‡No. 12—40x13½ in. over all; 6½ in. High; Weight per dozen about 106 lbs.	52.00

‡No. 12—46x13½ in. over all; 6½ in. High; Weight per dozen about 108 lbs.	63.50
‡No. 13—51x13½ in. over all; 6½ in. High; Weight per dozen about 120 lbs.	71.50

One-sixth Dozen in a Bundle.

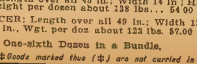
FIRE FLY.

Made of Straight Grained Second Growth Ash, Handsomely Decorated and Varnished; Spring Steel Runners, (T) Shaped, Strong and Flexible, Steel Uprights or Supports; Patent Steering Bar, convenient for Hands or Feet, makes Guiding Easy without Dragging the Feet; All Metal Parts Red Japanned.



Two Supports on Each Side.

	Per Dozen
No. 91—FOR ONE MEDIUM-SIZED CHILD; Length over all 33 in.; Width 11 in.; Height 6 in.; Weight per dozen about 84 lbs.	$37.00
No. 101—FOR ONE MEDIUM-SIZED CHILD; Length over all 36 in.; Width 12 in.; Height 6 in.; Weight per dozen about 86 lbs.	$4.50



	Per Dozen
No. 111—FOR ONE ADULT OR TWO CHILDREN; Length over all 40 in.; Width 12 in.; Height 6¾ in.; Weight per dozen about 114 lbs.	$54.00
No. 121—FOR TWO LARGE CHILDREN OR TWO ADULTS; Length over all 45 in.; Width 14 in.; Height 6½ in.; Weight per dozen about 138 lbs.	$1.00
No. 131—RACER; Length over all 49 in.; Width 12 in.; Height 6½ in.; Wgt. per doz. about 123 lbs.	$5.00

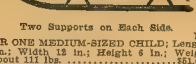
One-sixth Dozen in a Bundle.

‡*Goods marked thus (‡) are not carried in stock and can only be furnished by shipment direct from factory.*

COASTER SLEDS.

FLEXIBLE FLYER.

Made of Straight Grained Second Growth Ash, Handsomely Decorated and Finished with Three Coats of Best Grade Varnish; Special Process Spring Steel Runners, Grooved, which prevents skidding, Uprights or Supports made of Pressed High Carbon Steel, Patent Steering Bar Convenient for Hands or Feet, makes Guiding Easy without dragging the Feet; All Metal Parts Red Japanned.



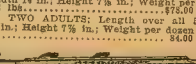
Two Supports on Each Side.

	Per Dozen
No. 1—FOR ONE MEDIUM-SIZED CHILD; Length over all 33 in.; Width 11 in.; Height 6 in.; Weight per dozen about 111 lbs.	$51.00 $68.00
No. 2—FOR ONE ADULT OR TWO CHILDREN; Length over all 42 in.; Width 13 in., Height 6 in.; Weight per dozen about 126 lbs.	60.00 $80.00

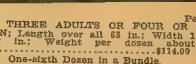
Two Supports on Each Side.

	Per Dozen
No. 2½—JUNIOR RACER; FOR TWO LARGE CHILDREN OR TWO ADULTS; Length over all 49 in.; Width 12 in.; Height at Front 6½ in., in Rear 5¼ in.; Weight per dozen about 126 lbs.	$66.00 $88.00

	Per Dozen
No. 3½—RACER; FOR ONE OR TWO PERSONS; Three Steel Supports on Each Side; Length over all 56 in.; Width 13 in.; Height at Front 7½ in., in Rear 5½ in.; Weight per dozen about 186 lbs.	$81.00 $104.00



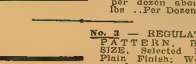
	Per Dozen
No. 3—FOR TWO LARGE CHILDREN OR TWO ADULTS; Two Supports on Each Side; Length over all 47 in.; Width 14 in.; Height 7⅞ in.; Weight per dozen about 182 lbs.	$78.00 $105.00
No. 4—FOR TWO ADULTS; Length over all 52 in.; Width 14 in.; Height 7⅞ in.; Weight per dozen about 210 lbs.	84.00 $112.00



	Per Dozen
No. 5—FOR THREE ADULTS OR FOUR OR FIVE CHILDREN; Length over all 63 in.; Width 16 in.; Height 8 in.; Weight per dozen about 282 lbs.	$114.00 $152.00

One-sixth Dozen in a Bundle.

HOCKEY STICKS.

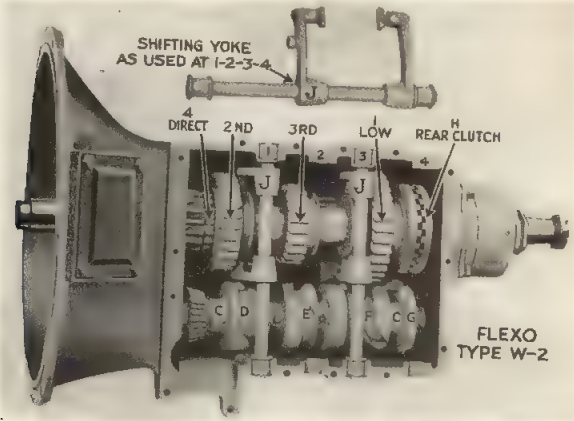


No. 2 — OTTAWA LEAGUE PATTERN, Selected ROCK ELM; Plain Finish, Weight per dozen about 12 lbs ..Per Dozen, $23.00

No. 3 — REGULATION PATTERN, BOYS' SIZE. Selected ELM. Plain Finish; Weight per dozen about 9 lbs Per dozen $12.00

Packed Loose.

NEW EQUIPMENT, PARTS AND SUPPLIES



Flexo Gearset Simplifies Driving the Car

Flexo Motors Corp
McCormick Bldg., Chicago, Ill.

The accompanying illustrations show a Flexo transmission with the cover removed to show the gears, gearshift, yokes, etc., and also a view of the steering wheel of the car showing the gearshifting wheel beneath the steering wheel with its index sector. The features of this transmission are the elimination of the gearshift lever, simple construction, more complete control of the car, and easier driving. Essentially it resembles the ordinary gearset in that the gears are shifted by shifting yokes. The big feature of the gearset is that a simply constructed and positively operating clutch is used inside the gearbox designated as the rear clutch "H" in one of the accompanying illustrations, which totally disengages the gears in the gearset from the rear axle drive shaft Gear changes are made by moving the shifting wheel beneath the steering wheel of the car and as this is moved to change from one gear to another, the rear clutch is automatically operated and the gearset being unbonded, at both ends, gears can be shifted forward or backward with ease and without the use of a brake. Any shift needed in driving can be made instantly, irrespective of the load, road, grade or brake conditions. The accompanying illustration will show the rotary camshaft which operates the yokes and the rear clutch, and thus shift the gears. It is so timed that the gears do not begin to shift until the rear clutch is entirely disengaged and the rear clutch does not mesh until the gears are completely meshed, thereby eliminating the possibility of any strain or power being applied to the gears until they are completely meshed. This gearset gives remarkable control of the motor vehicle when it is driven up or down steep grades, since the lower gears are more readily available for use in driving a car up a steep hill or in braking it going down a steep hill. The means of connecting the rotary camshaft in the wheel and the gearshift wheel are through two pairs of bevel gears. This gearset is being marketed upon a royalty basis.

The Katy Kotter Puller

Katy Mfg. Co.
903 East Lake St., Minneapolis, Minn.

The tool herewith illustrated, greatly simplifies the removal of cotter pins from connecting rods. It takes a secure hold on the pin, removing it with little effort. This tool is made from drop forged steel, tempered and polished. List price, $1.40.

The wonderful "O-K" Lines

Paper Fasteners Erasers and Letter Openers

THE FAMOUS WASHBURNE "O.K." PAPER FASTENERS

are adjustable—will hold 2 to 15 sheets of paper SECURELY. Their yearly sale of over 100,000,000 puts their superiority beyond question. Made in 3 sizes—2 finishes. Send for samples and literature.

THE SANITARY "O.K." ERASERS

include an adjustable metal holder and strip of rubber ⅛" thick. The holder will last a life-time—rubber will outlast three ordinary rubber Erasers. Let us send you sample and prove that they WORK BETTER—LAST LONGER. State whether you desire Typewriter and Ink, or Pencil.

THE RIES "O.K." LETTER OPENERS

at last have solved the problem of opening the mail quicker and without damaging enclosures in letters. Made in 3 models—3 sizes. SENT ON APPROVAL. A request for literature places you under no obligation. State number of letters you receive daily and we will recommend proper machine for your mail.

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AND OTHER SANITARY PAPER SPECIALTIES

For all Factory and Industrial uses. Get our Samples and Quotations on all your Paper and Cordage requirements.

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St. Clair Avenue and West Second Street
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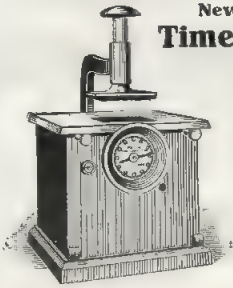
Account for Every LABOR MINUTE

HERE is the one logical method of keeping an accurate account of when you received and when you sent out letters, orders, contracts, etc. It will avoid all disputes as it records every minute of the day and night.

FOLLETT'S
New Model
Time Stamp



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Manufacturers of Time Stamps and Time Recorders

S. M. SPENCER MFG. COMPANY

BOSTON Established 1872 **MASS.**

Manufacturers of

FINE STEEL STAMPS AND STEEL LETTER CUTTING OF EVERY DESCRIPTION
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Steel Dies and Die Cutting
Embossing Dies
Gilding Dies
Book Dies
Cutting Dies
Punching Dies
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Engraving

BOX PRINTING DIES
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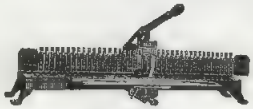
Numbering Machines and
Case Numberers
Time Stamps
Badges of Every Description
Tablets
Brass Signs
Enameled Signs
Fibre Checks, Tags and
Name Plates

NAME PLATES OF EVERY DESCRIPTION
KEY CHECKS AND TAGS
TOOL CHECKS

Trade Checks
Medals
Door Plates
Ticket Punches
Branding Irons
Car Seals and Presses
Wax Seals
Pattern Plates
Pattern Letters



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Makes STENCILS in half-minute at reduced cost of one-half cent each.
In Universal Use by over 35,000 Manufacturers and Shippers.

STENCIL BRUSHES
Good Quality Metal Ferrule

No. 4—1¼ Inch Diameter, 55c each, $5.50 per dozen
No. 7—1¾ Inch Diameter, 65c each; $7.50 per dozen

A. J. BRADLEY MFG. CO.

Manufacturers of All Kinds

Oil Stencil Paper, Stencil Inks, Marking Pots, Brushes, Etc.

Write for Catalog and Prices

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Telephone, Beekman 3501

BRADLEY BALL POT

The best Combination Pot for using fluid ink, for marking and stencilling. The Ball gives the brush the required amount of ink. No blurred marks.

PRICE, 60 cents each; $6.00 per dozen.

Sample Pot Mailed on receipt of 60 cents in Stamps. Prices of Copper Pots on application.

The Indianapolis Portable Electric Welder

Biggest Earner You Know

Hard Center Frogs—Before and After Reclaiming

An inexpensive outfit operated from trolley line. Does work that can be accomplished in no other way. Or, the smallest road will pay for itself in thirty days. Lasts a life-time. Just as effective on steel as bronze. Worn or rail cuts filled. Frogs, switches, crossings reclaimed. Truck frames reclaimed. Gear cases reclaimed. Low joints or cupped rails resurfaced. Electric welded joint and bonding plates.

INDIANAPOLIS WELDED JOINTS

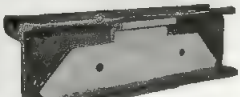
"SIMPLEX" Joint for High Tee Rail

Test of Bureau of Standards, Washington, D. C. Conductivity of this joint showed 138 against 100 on unbroken rail.

Solution of the Joint and Bonding Problem is Elimination of Joint Maintenance and Current Loss

"APEX" Joint Supporting Head on Guard Side for Guard and Girder Rail

Test made by Robert W. Hunt & Co., Chicago, Illinois



Deflection test of this joint showed under maximum wheel load (entirely suspended) deflection .018 in. Permanent set .000 in.

INDIANAPOLIS SWITCH & FROG COMPANY, SPRINGFIELD, OHIO

BASEMEN'S MITTS.

PROFESSIONAL MODELS.

PAGOMA

FULLY GUARANTEED.

"The Big League Players' Favorite Styles."

Are made on special designs slightly different from our regular styles. Only the very choicest and most flexible parts of the hide is used. Padded with our soft shock-absorbing felt, which guarantees a perfect, deep, permanent pocket. They have full laced edge, adjustable thumb lacing device, and are made with the greatest care and attention. Each mitt embodies special features as suggested by well-known players, and is a splendid example of the highest art in a baseman's mitt

Interior construction, showing felt padding, which may be adjusted in any manner desired.

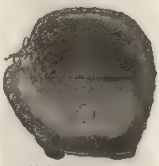
Used Constantly and Recommended Highly by

Hal Chase, R. C. Hob'itzel, Merkle, Chance, Frank Isbell.

$8.00

Net per doz.

NO. 148 — Choice cream colored cowhide, palm and fingers back tan chrome. Has full laced edge, flexible, non-resilient padding, patent buckle protector. A mitt of exceptional wearing qualities and a sure catch $127.20



$4.00

Full Laced Edge.

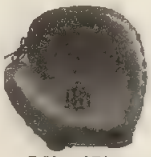
Net per doz.

NO. 123 — Palm and fingers of finest selected black glove leather, back of black imitation leather, full laced edge Natural, smooth ball-holding pocket. $63.60

$7.00

Net per doz.

NO. 145—An excellent quality basemen's mitt for amateurs. Palm and fingers of finest smoked chrome grain leather, back of olive kid, full laced edge. Natural, smooth, ball holding pocket..... $109.20



$2.75

Full Laced Edge.

Net per doz.

NO. 114 Full Size, brown tan leather palm, pad, and fingers heavy tan duck Ready-broke pocket, laced edge, wrist strap. $43.20

$5.00

Net per doz.

NO. 132 Fine tan chrome glove leather throughout, pad individually formed with the added feature of full laced edge. Ready for immediate use $78 00

ALL ARE PACKED ONE ONLY IN A BOX

"PAGOMA" Tools and Cutlery have a known quality.

CATCHERS' MITTS.

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE.

PROFESSIONAL MODELS.

PAGOMA

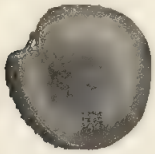
FULLY GUARANTEED.

Natural Deep Pocket "The Ball Sticks."

$10 00

Net per doz.

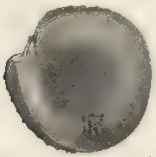
NO. 226 Palm made of genuine brown tanned cowhide. Double stitched, full laced edge for adjusting the padding, padding well made and substantially put together. Patent laced thumb $158 40



$7.00

Net per doz.

NO. 210—Well formed, popular pattern with palm of heavy brown grain leather with back and trimmings of tan-colored stock, full laced edge, patent thumb lace and natural roomy deep pocket. Patent wrist strap and buckle. Well made of best quality materials in a most durable manner $108.00



$6.00

Net per doz.

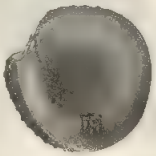
NO. 209-Black glove leather throughout. Made with full laced edge. Patent strap and buckle at wrist. Built so as to be ready to play with..... $96.00

$5.00

Net per doz.

NO. 205 Choice smoked cordovan leather palm and fingers, patent thumb lace, deep well formed pocket, patent wrist strap and buckle, full laced edge. An attractive and very durable mitt $78.00

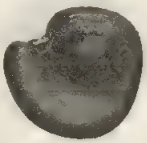
This Cut Shows Style of "Thin Edge" Scoop Models.



$4.00

Net per doz.

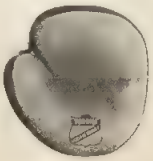
NO. 188 — Palm and fingers of strong tan leather, back and edge special grade imitation leather, with full laced edge for adjusting the padding, wrist strap and buckle..... $83.60



$3.00

Net per doz.

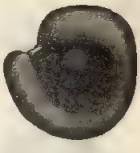
NO. 185—Good quality, sheepskin palm and fingers, leatherette edge and cloth back. Laced at thumb .. $48.00



$2.00

Net per doz.

NO. 182 A good size mitt with leather palm and fingers, cloth back. Special firm padding, full cloth bound edge, ready broke pocket $32 40



$1.75

Net per doz.

NO. 178 A choice youth's size mitt with good, brown-tan leather palm, back and fingers. Special firm padding Ready broke pocket.... . 27 60

ALL ARE PACKED ONE ONLY IN A BOX

"PAGOMA" is a guarantee certificate.

F. & R. COMBINATION SPECIAL VISES

Machinists' Vise

Fig 40213A

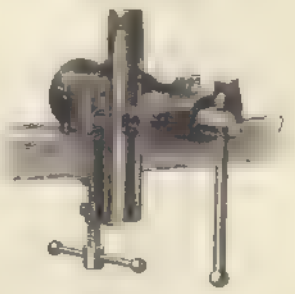
Adjustable to Any Point

This vise has been designed to meet the demands of the automotive and hardware trade for a general utility specialty that fills the requirements of the trade with only one size and style. This eliminates the necessity of carrying a large assortment of sizes with a corresponding reduction in shelf worn goods and dead stock.

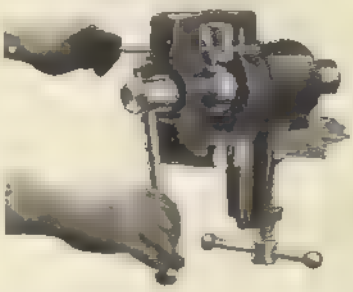
The combination of jaws and shear and their adaptability to many adjustments fills a need long felt by automobile mechanics, car owners and the general public.

In designing this vise every thought has been to provide not only a convenient arrangement of tools for use about the car and garage but also for general use with maximum strength but without excess weight. The cost is maintained at the lowest possible figure consistent with the production of a high grade article.

Holding Pipe



Shear Attachment



It has 3-inch jaws, cast steel faced and tempered. Jaws open 3½ inches. It has a first class set of pipe jaws. Capacity for round work, from 0 to 1⅝ inches. Pipe capacity, 0 to 1 inch. Shear device on pipe jaws cuts round stock up to ¼ inch.

Lathe set of jaws can be used on top or at any angle and locked in position by turning jaw screw to right. Bolts or round parts will not become flattened or slip in the jaws.

This portable vise will clamp on anything from a 1 inch table to a bench 3 inches thick.

This vise is highly finished with gloss French gray enamel. It is carefully inspected before packing and guaranteed as to workmanship and material. All parts interchangeable.

Net weight, 36 pounds. Shipping weight, 46 pounds.

Price.... each **17 00**

PARKER VISES

Re-enforced Slide, Solid Jaw
Stationary Bottom

Fig. 38623A

Re-enforced Slide, Solid Jaw
Swivel Bottom

Fig. 38623B

RE-ENFORCED SLIDE, SOLID JAW, STATIONARY BOTTOM

With castings of semi-steel, the slide strengthened with patented solid steel bar, and an extra large cut screw and nut, this vise is guaranteed to be strong as any vise made. The faces are of special tool steel, are re-milled and fitted to the jaws. Treated by a special process of hardening, they are renewable at a small cost.

No.		29X	39X	49X	59X	69X	79X	79½X
Width Jaws	inches	3¼	3¾	4¼	4¾	5½	6¼	7
Jaws Open	"	4	6	7	8	9	9½	10½
Depth Opening	"	3¼	3⅝	3⅞	4⅝	4¾	5⅜	5⅜
Weight	pounds	33½	52	72	90	129	159	190½
Price	each	11.50	13.00	17 00	22 00	33.00	45 00	55.00

RE-ENFORCED SLIDE, SOLID JAW, SWIVEL BOTTOM

This vise has the convenience of a swivel base which permits the vise to be turned to any position horizontal with the floor. The locking device is positive and can be placed on either side as desired.

No.		229X	239X	249X	259X	269X	279X	279½X
Width Jaws	inches	3¼	3¾	4¼	4¾	5½	6¼	7
Jaws Open	"	4	6	7	8	9	9½	10½
Depth Opening	"	3¼	3⅝	3⅞	4⅝	4¾	5⅜	5⅜
Weight	pounds	39	60½	84½	102½	151	187	228
Price	each	15 00	17.00	21.00	27.50	42.00	60.00	70 00

SOLID STEEL BAR SLIDE STRENGTHENERS

Sectional View

Fig. 38623C

The sectional cut shows the re-enforced slide as used on Parker Vises. Note that the solid steel bar extending the full length of vise (D to D) makes the slide or movable jaw, practically unbreakable.

Jaw faces (CC) are removable. Note solid underportion to front jaw (A to B). Collar and vise screw are one piece (F and F).

Tension screw holds handle firmly at any point desired and prevents it from dropping down and pinching the operator's fingers.

Made of semi-steel—a special Parker mixture of metals, not the ordinary grey iron castings. Actual tests have proven that this mixture is the greatest obtainable for strength.

The metal in Parker Vises has been properly distributed throughout, giving strength where strength is needed most at the point of most strain.

Other exclusive Parker features are the renewable, milled and fitted tool steel faces, extra steel cut screw and nut, sensible and useful set screw to take up lost motion set screw and spring tension on lever to hold same in position.

Write us Your Requirements for Goods Not Listed.

Cars for Every Commodity

Liquid or Solid

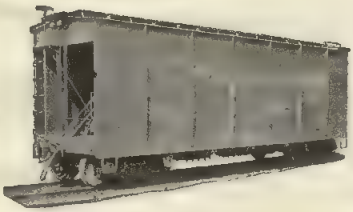
The variety of "GA" equipment, and the extent of its service to the world are best expressed by the statement that it serves all industries as it serves all nations.

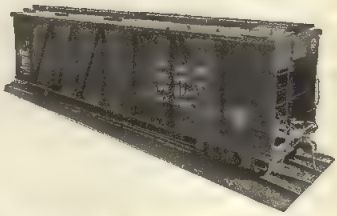
Wherever rails run, in far off countries where railroads are yet new, as well as in great centers of commerce, many "GA" cars are in daily service. In any large terminal are seen many "GA" cars bearing the well known names of leading concerns in all the different lines of production—fuels, foods, chemicals, explosives, coal, oil, grain, beverages, etc.

The company is equipped to design and build all types of cars, whether standard, specialty or industrial, for hauling any article of commerce, whether liquid or solid, and to ship them anywhere.

The company's engineers invite correspondence from any part of the globe on questions of car building. Their expert opinions are given without charge. Write the address below.

GENERAL AMERICAN





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SAFETY GASOLINE CANS
OILY WASTE CANS
FIRE HOSE
HOSE RACKS
HOSE CARTS
FIRE AXES

"SAFETY" PACKAGES OF REFILLS FOR ANY KIND OF EXTINGUISHER

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It Floats

Smothers Fire

FIREFOAM puts out fire quicker than any other fire extinguishing agent.

FIREFOAM expands eightfold on issuing from the apparatus and forms a blanket of FIRE EXTINGUISHING, FIRE SMOTHERING FOAM, which stifles the flames, and prevents re-ignition.

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Discharges 380 Gallons of Fire Foam

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Fire Protection Engineers

200 Fifth Avenue
New York City

TINKER NOVELTIES

GIBBS' TOYS (Canton, O.)

We do not break boxes

Per doz.

T18156—FLYING TINKER—Consists of 4 bodies, blade and cords nicely finished, each in individual box, one dozen in carton 1.20

T18157—EXTRA FLYING TINKER BLADES—To accompany Flying Tinker, set in packet 1.20

T18158—JUMPY TINKER—Consists of two rounds, divided by a picket fence, two catapults or spring boards in good strong box, with directions and four colored labels. 2.80

Per doz.

T18161—TINKER DUX—This is a lively scrappy game, consists of twenty-one wooden worms of various colors and recuts, a dry fighting arena with the worms, two dice in a shaker and two pans to place the caught worms. Pull rules printed inside the cover 3.02

Per doz.

T18163—BELLE TINKER—Tom's Twin Sister same construction as Tom Tinker, highly colored. Each in box 4.70

Per doz.

T18162—TOM TINKER—The Ball man, made of tin enameled in a variety of different colors, all of an over size order, which are suitable to a banker and about a foot above the head. His many moves are made of various discs that do as he. Each is packed in a very attractive box 5.10

Per doz.

T18159—TINKERTOY—The Wonder Builder. The spools and rods will construct hundreds of different objects and they teach the first principles of mechanics, motion and many natural sciences, which is set in a neat box. The most attractive outfit ever put on the market. Contains a complete book of directions 5.88

Per doz.

T18150—MISS TILLY TINKER—Colored cloth in straight colors 3 bodies no changing of heads, 3 changing stripes skirts, colors tall and well to serve different dances and will look in motion for several minutes with one spin. Can be dressed up as a doll, one dozen in carton 5.88

Per doz.

T18164—WHIRLY TINKER—Made of hard wood highly colored and enameled. The proper act of pulling this toy by its string sets the man dancing round and round. Each in attractive box 9.80

Per doz.

T18165—TUMBLE TINKER—Made of hard wood, highly colored and enameled. By pulling string the figure performs a diving act. Each in attractive box 9.80

T18153 CHRISTIE WIND MILL

Daisy Cart

Per doz.

T18257—DAISY CART—Length of cart 5 inches, length of handle, 20½ inches in packages of 12 ..... 1 85

Daisy Express Wagon

Per doz.

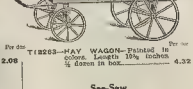
T18282—DAISY EXPRESS WAGON—Lithographed in colors, iron wheels, with 24 inch twisted iron handle, size of wagon 13x8½ inches, 6 dozen in box 4 32

Fairy Hay Cart

Per doz.

T18258—HAY CART—Size 4x6 inches, 1 dozen in box 2.08

Fairy Hay Wagon



Per doz.

T18263—HAY WAGON—Painted in colors. Length 10⅝ inches, ¼ dozen in box 4.32

Swinging Girl Toy

Per doz.

T18259—SWINGING GIRL TOY—Strongly made of metal with wood base, finished in 3 colors. When set in motion the girl figure will swing in long time coming to the swing at extremities of the arc. Height 8½ inches. 1 dozen in box 2.08

See-Saw

Per doz.

T18266—SEE-SAW — Automatic, no springs, reversible. Height 13½ inches 6.00

No. 8 Teeter Kids Toy

A TOY WITH LOTS OF ACTION

Per doz.

T18260—TEETER KIDS—Strongly made of metal with wood base, painted in bright colors figures when set in motion will see-saw a long time. There is nothing to get out of order. Height 8½ inches. 1 dozen in box 2 36

Butterfly Push Toy

Per doz.

T18264—BUTTERFLY PUSH TOY—Moving of wheels raises and lowers the wings. Full length 36 inches. ¼ dozen in crate 4 32

Derby Rider

"Pacing Bob"

Per doz.

T18261 CART WITH HORSE—When drawn over floor horse paces. Length 18 inches. 4 in packages 4 32

T18265—DERBY RIDER Ornamented in 3 colors, the horse when pushed along steps off at a lively pacing gait. ¼ dozen in box 4 32

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Miscellaneous Wood Toys

GIBBS' TOYS—Continued

No. 44 GALLOPING PONY PUSH TOY

T18267—GALLOPING PONY PUSH TOY. Strongly made, wooden hoop with steel spokes When pushed along the pony gallops in a lifelike manner Height 13½ inches, 20 inch wood handle ½ dozen in box ..... 6.00 Per doz.

No. 45 "DICK & DUKE" PUSH AND PULL TOY

T18268—DICK AND DUKE PUSH AND PULL TOY—2 wooden hoops, with galloping pony and rider hung in center finished in 5 bright colors, height 19½ inches with 21 inch handle. ½ dozen in box 3.40 Per doz.

Wood Toys

T18257—WOOD ELEPHANT — On four-wheeled platform; moving head, painted in colors, length 8½ inches; height 7 inches; 1/6 dozen in box, not broken ..... 6.00 Per doz.

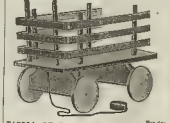
T18265—WOOD BEAR — On four-wheeled platform, painted in colors moving head, length 8½ inches, height 8 inches 1/6 dozen in a package not broken 6.00

T18259—WOOD AUTOMOBILE WITH DRIVER—Painted in bright colors, length 9 inches height 8½ inches, 1/6 dozen in a box, not broken 6.00

T18261—WOOD ELEPHANT Mounted on platform with four wheels; moving head, length 8½ inches, height 7 inches; 1/6 dozen in a box, not broken 4.00

T18262—WOOD POLAR BEAR—Mounted on platform with four wheels Moving head bear painted white, platform green, wheels red, length 8½ inches, height 6½ inches, 1/6 dozen in a box, not broken. 4.00

T18044—DICK, THE DRIVING HORSE — Made of wood, painted, white animal, blue wagon, red wheels. Length 20 inches. Width 5 inches. Height 11 inches..... 7.84 Per doz.



T18264—DRAY—Made of wood, 4 wheels and cover pad, with removable side boards... ..... 6.00 Per doz.

T18042—JACK THE DRIVING MULE — Made of wood, painted, grey animal, blue wagon, red wheels. Length 15 inches width 5 inches, height 11 inches ..... 7.84 Per doz.

T18124—LOADED TRUCK — Drawn by team of stationary dog horses, with metal wheels on axle, lithographed in bright colors ..... 6.00 Per doz.

T18130—LOADED TRUCK — Wood wagon and horses with dummy grocery packages, metal wheels, 25 inches long 11.76

T18125—GROCERY WAGON—Drawn by team of stationary log horses with metal wheels on logs; lithographed in bright colors, length 18½ inches, width 5¾ inches ..... 5.00 Per doz.

Wood Toys

T18128—HOOK AND LADDER—Wood wagon and horses, metal wheels, one three ladders and two men Length 16 inches ..... 7.75 Per doz.

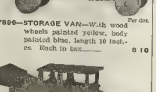
T18129—HOOK AND LADDER—Wood wagon and horses, metal wheels, has five ladders and two men. Length 20½ inches 11.76

T18131—COAL WAGON—Wood wagon and horses, metal wheels length 16 inches. ..... 11.76 Per doz.

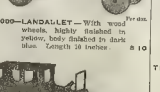
T18126—SEE SAW—On elevated platform with 5 figures; will not saw when pulled by cord, 10 inches long; 1/6 doz. in package ..... 4.25 Per doz.

T18127—Same as T18126 has 2 animals and 1 figure; length 14 inches; 1/6 dozen in package 7.75

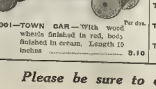
T18123—EXPRESS AUTO TRUCK Metal wheels made of hard wood lithographed in colors Length 9¾ inches ..... 3.15 Per doz.



T17896—STORAGE VAN—With wood wheels painted yellow, body painted blue, length 10 inches. Each in box..... 2.10 Per doz.



T18009—LANDAULET—With wood wheels, highly finished in yellow, body finished in dark blue. Length 10 inches 2.10 Per doz.



T18001—TOWN CAR—With wood wheels finished in red, body finished in cream. Length 10 inches ..... 2.10 Per doz.

Wood Toys

T18003—LIMOLSINE — With wood wheels finished in yellow, body finished in red. Length 10 inches ..... 10.50 Per doz.

T18002—CIRCUS VAN With wood wheels finished in yellow body finished in red Length 10 inches ..... 10.50 Per doz.

T18005—ANIMAL TRUCK — Highly finished body enameled red low, wheels red Length 10 inches ..... 1.25 Each

T18004—U. S. ARMY TRUCK—Body finished in khaki, wheels yellow, Length 12½ inches..... 1.26 Each

T18285—AUTOMATIC DUMP AUTOMOBILE. Highly finished red body, dark green wheels, steel waterproof finish, size 18¼x7¼x6¼ inches 1.40

Mounted Horses

T18319—COTTON FLANNEL COVERED—Imitation grey effect mounted on platform with wheels imitation, leather saddle and bridle hair mane and tail. Height of horse 10 inches ..... .81 Each

T18310—Same as No. T18318, height of horse 13 inches..... 1.20

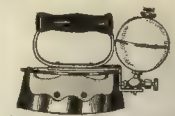
T18320—Same as T18318, height of horse 16 inches. 1.75

T18321—Same as T18318; height of horse 16 inches 2.60

Please be sure to order by number

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Electric Appliances and Lamps



No. 707. Comfort Gasoline Flat-iron. Weighs 7 lbs., has 13½ sq. inches of ironing surface, fuel capacity is ½ of a pint, burns five hours with one filling. Perfectly shaped **"hand-grip"** handle which is always cool. Complete each in carton.
Each 3.60

No. 705. Electric Toaster. Black japanned metal base, size 2¾x6¾ inches, height 6 inches, heavy nickel plate, silver polished, flat steel and wire construction, toasts two pieces of bread at one time. With ebony finished knobs which makes it impossible to burn the hand. Two pieces are jointed, but when flat can be used for keeping the toast or any other article warm. Complete with cord and plug. Can be used on any current or voltage.
Each 3.50

No. 708. Electric Toaster Stove. Toasts, boils, fries, steams and cooks. Strongly built of cold rolled steel, nickel plated and highly polished. Heavy asbestos plate holds heating units. Polished nickel plated legs and handles. Height 2½ inches, length 10 inches, width 6 inches, weight 2 lbs. Complete with 6-foot standard cord and plug. Each in carton.
Each 2.75

Polar Cub Electric Fans. Two-part drawn steel motor shell, A. C. or D. C. universal motor, one speed, brass bearings oiled by felt wick, cast-iron base, adjustable to any angle, 4 blades and wire guard. Frame, guard, blades, motor and base finished in rubber enameled black. Fitted with 7½ foot black twisted lamp cord and standard one-piece screw plug. Packed each in box.

No. 709. 8-Inch Blades, height over all 8 inches, weight 2 lbs. 5 ounces
Each 3.65

No. 7010. Diameter of blades 8 inches, height over all 9¾ inches, weight 2 lbs. 13 ounces.
Each 6.25

Electric Vibrators

No. 7011. Electric Vibrators. Being quite necessary for facial massage, treating dandruff and falling hair, for developing and strengthening tissues, for nervousness and headaches. Made of nickel plated material, minutely adjusted, high quality motor, guaranteed to be as satisfactory for the purpose intended as any vibrator on the market. Each in box complete with the different attachments.
Each 3.50

Electric Iron

No. 702. Electric Iron. Weight 6 lbs., with 6-foot connecting cord with removable plug. Extra large heating surface. Equipped with a new extensible cord holder which does away with all trouble with cord. Made of the very best material. Highly nickel plated; without stand.
Each 3.50

Wallace Portable Lamp

No. 2C9. Wallace Portable Lamp. Most handy and useful lamp on the market. Brush brass finish, with patent push socket plug cord, in fact the entire lamp fits in the back of the lamp, the shade fastened securely to the base, forming a ball-like top. Can be placed conveniently in grip or suit case. The original lamp of its kind on the market.
Each 2.35

Portable Reading Lamps

No. 2C65. Portable Reading Lamp. Heavy metal base, brush brass finish, adjustable shade, which permits light being thrown wherever desired. Can be used as a desk, table lamp or hung on the wall.
Each 1.50

Electric Irons and Toasters

Tourist's Electric Iron

No. 11G20. "Universal" Tourist's Electric Iron. Weight 3 pounds, heavily nickel plated base, Hood ebonized, separable handle. Equipped with reversible heat-proof spring stand, 6-foot cord, Hubbell attachment, plug and velvet bag for traveling. When inverted it is used for ironing out ribbons, laces, etc., and is a small stove for heating water. Has hole in end for heating a curling iron. Each..... 4.50

ELECTRIC TOASTERS

No. 11G18. Universal Electric Toaster. Heavily nickel plated finish, fiber feet and finger clips. Uses very little current and will make two pieces of toast in 2 minutes. Equipped with a 6-foot cord and attachment. Each 4.60

ELECTRIC IRONS

No. 11G19. Universal Electric Iron. Weight 6 pounds, new model, nickel plated body and hood, ebony handles. Complete with reversible heat-proof spring ring stand, 6-foot cord and Hubbell attachment plug. Each..... 4.60

No. 2G25. Manning Bowman Electric Iron, with non-heating handle. Weight 6 pounds. Has a steel stand at the back. It heats very quickly and evenly with extra heat at the point. Handsomely nickel plated and finished. Each 4.60

No. 2G20. Manning Bowman Electric Toaster. Heavily nickel plated open top which may be used for drying out bread and for keeping toast hot, while the other toast is being made. Fancy pierced doors with ebonized knobs. Equipped with cord and attachments. Each 4.80

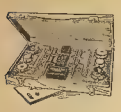
No. 2G19. Manning Bowman Electric Toaster, handsomely nickel plated, the toaster that turns the toast. When one side of the bread is toasted, turn the knob and the bread is reversed automatically. Uses very little current to operate. Complete with toast rack on top which keeps toast hot. Each 5.65

ELECTRIC COMBINATION STOVE

No. 13G1. Electric Combination Stove, toasts, fries, steams and cooks, made of nickel finish cast metal, strong and durable, mounted on legs, height 3 inches, length 8½ inches, width 5¾ inches, complete with cord with switch and plug. Each.... 3.50

Gilbert Outfits

Bandied in lots of 25.



Each

T17186—SOUND EXPERIMENTS—An outfit that will answer questions in sound and musical tones. With each outfit is a book on the science of sound which is explanatory and not hardwood cabinet, size, 15¾x10½x2¾ inches.... 3.25

Each

T17184 MAGNETIC FUN AND FACTS—An electrical outfit that covers magnetism, magnetic motor, electric shocker, etc. Can be built all of parts contained in the complete book of instructions, stained hardwood cabinet, size, 15¾ x 10¾ x 2¾ inches 7.00

Each

T17198—HYDRAULIC AND PNEUMATIC ENGINEERING—An outfit that gives a clear understanding of the principles of hydraulics and pneumatics as included in this book which goes with the outfit, stained hardwood cabinet size 15¾ x 10¾ x 2¾ inches 7.00

Each

T17197—WEATHER BUREAU OUTFIT—This enables the boy to study the first principles of the weather. Contains an anemometer for finding out the velocity of the wind a weather vane for the direction of the wind and a barometer a book with complete instructions a with the outfit six rod hardwood cabinet 15¾x10½x2¾ inches.... 8.75

MECCANO

Each

T16919—MECCANO NO. 0—Makes 18 models, complete in box with instructions..... 1.13

T16920—MECCANO NO. 1—Makes 27 models makes trucks railway repair way 3lb crane, aeroplane, passenger barrows, swing bridge, tip wagon, and build railway signals, screw driver and instruct on book included..... 2.25

T16921—MECCANO NO. 1 With motor 4.13

T16922—MECCANO NO. 2 Makes 45 models more advanced than T16920, makes tipping motor wagon [illegible] railway bridge with signal, motor van [illegible] complete in box with instructions..... 4.50

T16923—MECCANO NO. 2—With electric motor 5.30

T16924—MECCANO OUTFIT NO. 3—Without motor 6.75

T16925—MECCANO NO. 3X—Larger than T16924 makes 50 models including rotation crane, pit headgear, swing bridge, pile driver, tower, wagon and crane complete in box with instructions and motor..... 8.63

T16926—MECCANO NO. 4—Makes 63 models, including traveling crane, elevated 3lb crane, warehouse with hoist and lift, drilling machine, fly ing machine and girder crane. Meccano motor for driving models complete in box with full instructions..... 11.26

T16927—MECCANO ACCESSORY—Contains many special parts not included in other outfits and to add the utility of Meccano outfit..... 2.25

T16928—ACCESSORY MECCANO OUTFIT NO. 0A—Contains sufficient parts to convert a No. 0 into a No. 1 outfit..... 1.13

T16929—ACCESSORY MECCANO OUTFIT NO. 1A—Contains sufficient parts to convert a No. 1 into a No. 2 outfit..... 2.25

T16930—ACCESSORY MECCANO OUTFIT NO. 2A—Contains sufficient parts to convert a No. 2 into a No. 3 outfit..... 2.25

T16931—ACCESSORY MECCANO OUTFIT NO. 2A—Contains sufficient parts to convert a No. 3 into a No. 4 outfit..... 4.50

T16932—ACCESSORY MECCANO OUTFIT NO. 4A—Contains sufficient parts to convert a No. 4 into a No. 5 outfit..... 3.75

T16934—MECCANO ELECTRIC MOTOR NO. 1—Specially designed for Meccano, can be built into all models, pulley and direct shaft drive..... 2.25

T16935—MECCANO ELECTRIC TRANSFORMER NO. 0—Converts 8 volts from 110 volts A.C. 2.44

T16933—MECCANO SPRING MOTOR S1—A clock work motor which will drive Meccano models perfectly and

T14919

T14927

T14924

T16934

T14923

T14925

T16935

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

SHURE THE WINNER PRICE LIST

GILLETTE SAFETY RAZORS

1.00 RAZOR

3 Blades

9C64. "Brownie" Gillette Razor. Nickel plated holder, with 3 blades, in imitation leather covered metal case.

Per dozen 7.20

6.00 RAZOR

9C53—12 Blades

5.00 RAZOR

12 Blades

No. 9C50. Old Type "Standard" Gillette Safety Razor. Silver plated holder, 12 blades, in velvet lined leather case.

Each 2.25

No. 9C53. (Aristocrat) Gillette Safety Razor. Velvet lined French Ivory case, containing silver plated razor and 12 blades

Per dozen..... 36.00 Each..... 3.30

No. 9C56. (00) Gillette Combination Set. Velvet lined, seal grained leather case containing silver plated razor, shaving brush and shaving soap, in silver plated holders, and 12 blades

Each 4.25

No. 9C57. (00G) Gillette Combination Set. As above, with gold plated razor, blade box, and fittings.

Each .....

6.00 RAZOR

12 Blades

No. 9C65 (502E). Gillette Safety Razor. Vest pocket edition, in gold plated velvet lined case, containing gold plated razor with 12 blades.

Each 2.50

5.00 RAZOR

12 Blades

No. 9C52. (Bulldog) Gillette Razor. Fine leather case, velvet lined, containing silver plated razor with 12 blades.

Each 2.25

7.50 AND 10.00 RAZORS

9C56-57—12 Blades

New Improved Type Gillette Safety Razors with 12 Blades

9C49

No. 9C49. New Standard Gillette Safety Razor. Genuine leather covered case, velvet and satin lined, containing new, improved silver plated Gillette Safety Razor and metal blade box, containing 12 blades.

Each 3.67

Each (in lots of a dozen) 3.30

9C47

No. 9C47. (Tuckaway) New Style Metal Case. Velvet and satin lined, containing silver plated, new improved pattern Gillette Razor and blade box, containing 12 blades.

Each 3.67

Each (in dozen lots) 3.30

9C62

No. 9C62. (Bostonian) Gillette Safety Razor. Metal case, velvet and satin lined. By opening up cover, automatically raises tray containing razor and blade box. Razor is triple silver plated. Metal blade box contains one dozen blades.

Each 3.67

Each in dozen lots 3.30

9C59

No. 9C59. (Big Fellow) Gillette Safety Razor. Case of selected, natural finished grain wood, containing silver plated, new improved style safety razor, and blade box, containing 12 blades.

Each 3.67

Each (in dozen lots) 3.30

WHOLESALE N. SHURE CO. CHICAGO.

For Nearly a Century the Store of Service.

GOODELL LATHES AND SAWS

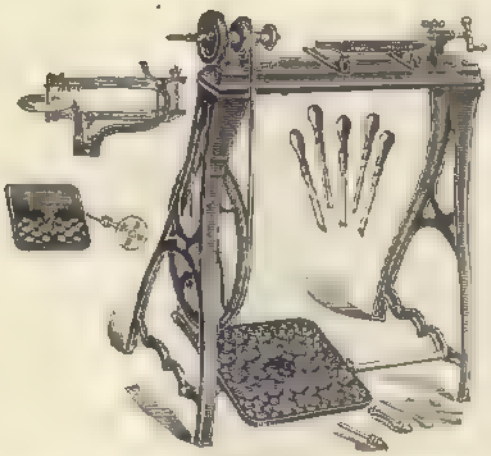


Fig. 15913A

Drive wheel and cone pulley with two grooves to permit change of speed. Accurate drill chuck holding from 0 to ¼ inch diameter round shank drills for boring in metal or wood. Has long and short tool rests, five turning tools, wrench, drill points, etc. Lathe head with 2 inch face plate and spur center and screw center for turning cups. Emery wheel, 4x¾ inch. Drill spindle with chuck for drill points for wood boring. Tail stock with screw feed clamped at any point.

Swing of lathe, 5 inches; distance between centers, 13½ inches; distance of bed from floor, 27 inches. Length of bed, 25 inches. Has fret sawing attachment. Circular saw attachment with saw table 6x7 inches, saw arbor, saw blade 3 inches in diameter, and straight edge guide.

Price, Lathe and Lathe Tools No. 317, Weight 50 Pounds						each	29 50
" " " Fret Saw Attachment,	"	57	"			"	35 50
" Fret Saw Attachment, No. 318,	"	7	"			"	6.00
" Circular Saw Attachment, Weight, 3 Pounds..						"	1.90

In ordering state whether either or both of the saw attachments are wanted

PARTS

Description	Price Each
Lathe Bed	1 70
Legs (2)	1.70
Treadles	1.55
Treadle Rod	.40
" Cap (2)	.20
Driving Wheel	2.15
" " Bolt	.25
Emery Wheel	.50
Headstock	.50
" Spindle and Face Plate	.50
" " Cone Pulley	.70
Tailstock	.50
" Spindle and Crank	.65
" " Binder	.35
Long Rest	.30
Short "	.20
Rest Sockets (2)	.25
Spur Center	.15
Screw Center for Cup	.15
Millers Falls Chucks	2.40

Description	Price Each
Saw Attachment Arm Casting	95
Arm	* 60
Table	1 20
Standard	25
Clamps	* 50
Bolts	04
Turning Tools (5)	3 50
Arm Bolts and Nuts	.15
Belt	35
Drills	.40
Pitman, Long	.15
" Short	06
" Screws	.06
Screw Driver	.25
Blower	.25
Table Bolt	.04
Wrench	.15
Saw Guide (New Pattern)	20
Arm Spring	06
Winged Drill Nut	.20

*Price, per pair. †Price, per dozen.

AMATEUR BENCH LATHES

NO. 125

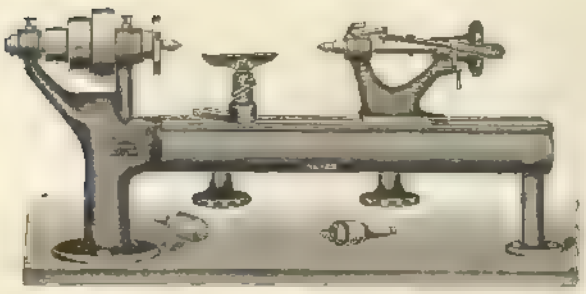


Fig. 28070A

The No. 125 Lathe is substantially constructed from good materials and is designed especially for amateurs, experimenters, inventors, and designers. Will turn a wide range of work, making it particularly useful in laboratories, repair shops, and trade schools. Is 12 inches between centers, 7-inch swing.

This lathe has a milled bed and a tail stock with a milled base. The live spindle is provided with a No. 1 Morse Taper Socket and has a ¼-inch hole clear through. The tail stock has a tail screw and lever feed. Tail stock spindle has a No. 0 Morse Taper Socket. The cone pulley has three steps 1¼, 2", and 3¼ inches in diameter.

The lathe is finished with black and red enamel. The bed is milled, all working parts are polished.

Every lathe is provided with an adjustable tee rest, a slotted face plate, a sawarbor, and a drill chuck with a No. 1 Morse Taper Shank. The chuck holds round shanks of all sizes from 0 to ¼-inch. Both the head stock and tail stock are provided with pointed centers. Length over all, 25 inches. Height, 11½ inches. Swing, 7 inches. Extreme distance between centers, 12 inches.

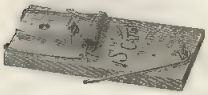
No countershaft is furnished with this machine.

Price . . each **36.00**

Write us Your Requirements for Goods Not Listed.

TRAPS.

SURE CATCH.

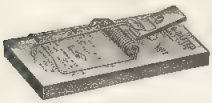


Wood Base and Trigger, Round Striking Bar.

	Net per gro
NO. 5—Mouse, 2x3¾ in., weight 12 lbs. per gross	$7.00
Net per dozen	.70
NO. 6 Rat, 3½x7 in., weight 50 lbs. per gross	27.50
Net per dozen	2.76

ONE DOZEN IN A BOX.

OUT O' SIGHT.

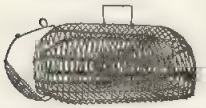


Wood Base and Trigger, Round Coppered Bow.

	Net per doz.
NO. 15—Mouse, 2x8⅝ in., weight 1¼ lbs. per dozen	$2.00
NO. 16—Rat, 3½x7 in., weight 4½ lbs. per dozen	4.00

ONE DOZEN IN A BOX.

WIRE MOUSE.



Sheet Steel and Coppered Wire, much stronger Trap than the common Wire Traps.

	Net per doz
NO. 75—Mouse, 8x5 in., weight 9 lbs. per dozen	$14.00

SIX DOZEN IN A CRATE.

WIRE RAT.

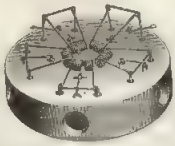
Sheet Steel and Coppered Wire.

Owing to the Construction of this Trap with U shaped Ribs it is much stronger than if made of all Wire.

	Net per doz.
NO. 85—Rat, 15½ in. long, 17 gauge wire, weight 22 lbs. per dozen	$21.40
NO. 86 Rat, 19 in. long, 16 gauge wire, weight 30 lbs. per dozen	34.50

HALF DOZEN IN A CRATE.

WOOD CHOKER.



Made of One Piece of Wood, Stained Red. Coppered Steel Springs.

NOS.	35
Holes	4
Weight per dozen	5 lbs.
Net per dozen	$3.00

ONE DOZEN IN A BUNDLE.

GOPHER.

NEWHOUSE

Specially tempered steel, simple in construction, quick in action.

	Net per doz.
NO. 84—Length 6 in., diameter of ring 3 in., weight 8 lbs. per dozen	$3 46

ONE DOZEN IN A CARTON.

CINCH.

Japanned steel body, strong spiral spring, steel jaws with steel scoop for opening hole in the ground.

	Net per doz.
NO. 1—Size 4½x5½ in., weight 12 lbs. per dozen	$13.00

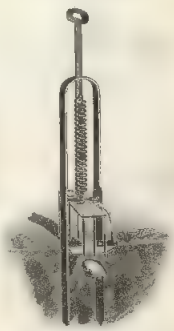
ONE DOZEN IN A BOX

RENKENS.

	Net per doz
NO. 51—Weight 15 lbs. per dozen	$12 00

ONE DOZEN IN A BOX.

MOLE.



REDDICK.

	Net per doz.
NO 16 Steel frame, six sharp tines, heavily tinned to prevent rust, Japanned steel spring, weight 38 lbs. per dozen	$20.00

The most effective mole trap made.

HALF DOZEN IN A CRATE.

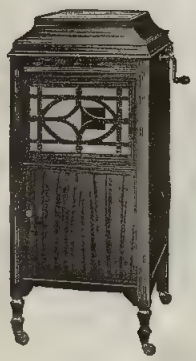
Grand Opera Phonographs

With Universal Tone Arms—Play all Records

NOTE: All prices include the War Tax

High grade instruments combining all the improved features so necessary to the perfect reproduction of all musical sounds. The designs are strictly up-to-date; the all wood tone chamber, speed regulator and special tone modifier combine to produce an instrument that is positively unsurpassed in construction and musical tone quality—and we **guarantee** each and every one. Sales are easy and profits for the dealer better than the average. Order one or two for display and to sell from. You can then reorder as you need the goods

NOTE: All prices include the War Tax



$100.00 RETAIL VALUE—Ht. 43 in., width 19 in., depth 23½ in., good grade double spring worm gear driven motor, 12 in. turntable, 3 nickel plated tone arm and parts. 1 in case, 145 lbs.

Each

F8702—Oak finish . . . . . } **$55.00**

F8700—Mahogany finish . . . .

$175.00 RETAIL VALUE—Ht. 50 in., width 23 in., depth 25 in., double spring micrometer adjusted motor plays 5 records with one winding, 12 in. turntable, automatic stop, latest brake, piano hinge, solid carved legs, hand carved, metal parts nickel plated. 1 in case, 160 lbs.

Each

F8715—Genuine mahogany

F8716—Genuine fumed oak . . . } **$95.00**

$225.00 RETAIL VALUE—Ht. 51 in., width 23 in., depth 26 in., genuine hand carved corner posts on top and bottom carved grill, double spring micrometer adjusted motor plays 5 records with 1 winding, automatic stop and speed regulator brake and tone modifier and all exposed parts heavily nickel plated. 1 in case, 165 lbs.

Each

F8717—Genuine mahogany

F8718—Genuine fumed oak . . . } **$120.00**

$145.00 RETAIL VALUE—Ht. 45 in., width 21 in., depth 23 in., double spring micrometer adjusted motor, plays 5 records with one winding, 12 in. turntable, automatic stop, piano hinge, metal parts nickel plated, solid carved. 1 in case, 185 lbs.

Each

F8705—Genuine mahogany

F8707—Genuine fumed oak . . . } **$80.00**

PHONOGRAPH NEEDLES

"Wall Kane" Needle Asst. Stud reproduces loud, extra loud, 50 needles in pkg., enough for 500 records, sell for 15c per pkg., retail value $9.00

F8542—5 doz. pkgs. on display stand. ASST. (5 doz. pkgs.). **$4.20**

Non-Rustable—Polished steel, 100 needles in envelope. 10 envs. in box.

F8340 Loud . . . . . } Per M

F8341—Medium . . . . . } **65c**

Jewel Needles—Domestic manufacture. 1 in envelope.

F8338—Pathe full tone . . . . } Each

F8336—Pathe half tone . . . . } **20c**

F8337—Edison point

PHONOGRAPH RECORD ALBUM

F8683—12 in., 12 pockets, strong and durable wine color covers. Gold lettering.

Each. **$1.25**

$275.00 RETAIL VALUE—Ht. 51 in., width 23 in., depth 26 in., hand carved corner posts and carved grill triple spring motor plays 8 records with 1 winding, piano hinge, lock and key, automatic stop, speed regulator brake, tone modifier and all metal parts gold plated. 1 in case, 190 lbs.

Each

F8722—Genuine mahogany

F8782—Genuine fumed oak . . . } **$150.00**

KEWPIE DOLLS

The Genuine Kewpie Models. Extensively known and very popular All carry a strong appeal. They sell fast with good margins of profit. No other line of novelty dolls has enjoyed such popularity or such enormous sales This showing is as complete as you will find anywhere

Undressed—Pre-cut, model, painted eyes and features, tinted body, jointed, arms on pedestal This Kewpie doll is a favorite wherever shown and is purchasable at a moderate price

F7200—9½ in. ½ doz. in box ...Doz. ★4.50
F7201—12¾ in. ½ doz. in box...Doz. ★6.75

STAR VALUE

Undressed — Light weight composition body, fine tinted air brush finish, doll jointed at shoulders, jointed arms. ½ doz. in box

F7225—9 in. Doz. $ 8.00
F7226—10½ in. " 10.50
F7224—13½ " " 14.00

"Sweater" Kewpie — Art silk bathing shirt, cap to match.

F7223—9 in ½ doz in box. Doz **$10.00**

F7229—10½ in. 1 in box. Each, **$1.40**

Ribbon Dressed—Wide faced satin ribbon skirt, ribbon hair band with bow 1 in box

F7225 9 in Each **$1.10**
F7226—10½ in. " **1.75**
F7227—13½ " " **1.95**

Bride White satin skirt, swandown edge, lace bretelles, long net veil with wreath corsage bouquet 1 in box

F7054—9 in .Each, **$1.75**
F7055—10½ in. " **2.00**
F7056—13½ " " **2.50**

F7826—12½ in., wide flared silk ribbon skirt, pantalettes, silk braid trim, braid shoulder straps, cap to match. 1 in box, Each, ★2.25

Mohair Wig — Fashionable veil covered mohair coiffure,

F7031—10½ in. 1 in box Each, **$1.40**
F7032—12½ in. 1 in box Each. **$1.75**

F7857—9 in., assd. color braid trim skirt and pantalettes, silk braid shoulder straps **mohair wig**, silk band on hair, ribbon wristbands. 1 in box. Each, **$1.75**

F7960—12½ in., embroidered percale lace flared skirt, satin pantalettes, velvet shoulder straps and hair band, ribbon wristbands, real human hair wig, veil covered. 1 in box .Each, **$3.25**

Cork Stuffed Kewpies Composition head and hands, painted features, concealed hip and shoulder joints, each in box

F7545—9 styles, 12½ in., lace and ribbon trim, sewn dresses, underwear and stockings. Assd ½ doz. in box Doz **$10.50**

F7546—21½ in., fine white lawn dress, lace and ribbon trim, cap to match, lawn underwear, stockings & stitched lawn bootees. 1 in box Each, **$1.25**

IMPORTED GENUINE BISQUE KEWPIES

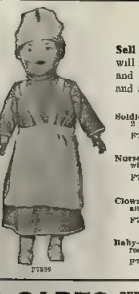
Genuine bisque, known the world over, jointed arms, tinted features and hair, large roguish eyes. 1 doz. in box

F7164—4½ in. Doz. **$2.25**
F7195—6 in. " " **4.50**

CARNIVAL DOLLS

Sell big the year 'round. Our prices are low and you will find these values hard to equal Composition heads and hands, painted features and hair, concealed hip and shoulder joints Order your needs here

F7089



F7899

Soldier—30 in., regulation khaki color costume, belted blouse, 2 pockets, brass buttons, "Over Seas" model cap

F7086—1 in box Each, **$1.50**

Nurse—30 in., blue chambray costume, white apron and cap white slippers

F7089—1 in box Each **$1.50**

Clown—30 in., tricolor muslin harlequin costume, ruche neck and ankles cap to match white slippers

F7085—1 in box Each, **$1.50**

Baby—29 in., lace trim long lawn slip, embroidery yoke, ribbon rosettes, lace trim ruffle cap, panties

F7084—1 in box Each **$1.50**

F7085

F7084

DOLL GO-CARTS

PERAMBULATORS AND SULKIES Made by reliable manufacturers Quality considered these values are the best to be had in today's market Our low prices will enable you to undersell competition Order now

SEMI-COLLAPSIBLE STEEL FRAME DOLL GO-CARTS

STEEL FRAME DOLL SULKY

DOLL PERAMBULATOR

3 bow enamelled leatherette hood gears, hood irons, pusher and wheels black

F281 Hit 26 in steel frame 11x6, assd colors leatherette, 8 in. all steel wheels, tip handle gears, wheels and frame black enameled

F282—4 doz. in carton, 2 lbs. Doz. **$6.00**

F281 As above with fifth auto top 25 doz. in carton 14 lbs Doz. **$7.50**

F286—Ht. 25½ in., steel frame 17x25½, 5 in wheels, heavy rubber tires 3 bow heavy leatherette hood, side curtains and foot-well, adjustable reclining back, flat steel pusher with polished wood cross handle 1 in carton Each, **$2.75**

F158—Body 13x23¼, ht. at back 14 in., 3 bow hood, black leather side, 7 in. rubber tire wheels, under a few of this popular st, le—they sell fast. 3 in crate Each **$2.10** (Total $41.90)

F302—Body 17x7 ½ ht. 23 in., assrtd. black and brown, gold striped, 6 in. all steel wheels, 1 pc. steel pusher, 4 in carton 27 lbs (Total $8.00) Each, **$2.00**

F304—Body 18x8½, ht at back 25 in assd black and brown gold striped 7 in double spoke wheels heavy rubber tires, round cane pusher polished wood cross handle. 1 in carton 30 lbs Each **$3.25**

For Nearly a Century the Standard of Service.

ENTERPRISE MEAT AND FOOD CHOPPERS

Nos. 5, 10 AND 20

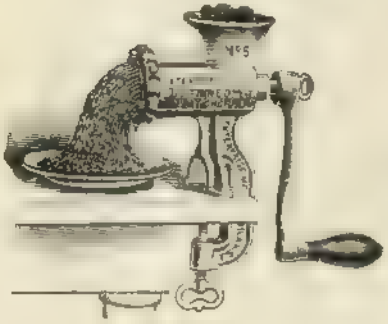


Fig 33098A

No. 5 is family size. No. 10 is restaurant size. No. 20 is hotel size.

No.	Weight Pounds	Chops per Minute Number	Weight Case of One Pounds	Price Each
5	13¾	1½	45	3 00
10	8¼	3	72	5 00
20	16½	1	128	10 00

Nos. 12 AND 32

Fig 33098C

No.	Weight Pounds	Chops per Minute Number	Weight Case of One Pounds	Price Each
12	9	3	65	4 50
32	22	5	150	8 00

No. 122

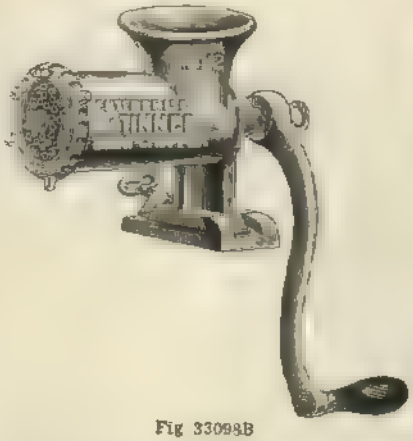


Fig 33098B

Constructed with a base which is to be stationary on a block or table, and the cylinder or body being detachable enables the user to easily remove it for cleaning or putting it in the ice box.

Weight	pounds	15½
Chops per Minute	"	1
Weight of One in Case	"	112
Price	each	8 00

No. 432

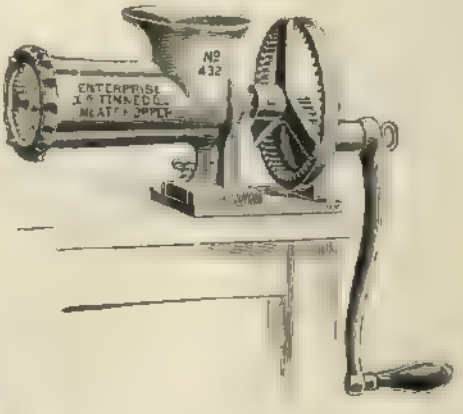


Fig. 33098D

Adapted for butchers' use, also for the larger hotels, restaurants, public institutions, etc., where it is desired to have a machine capable of chopping large quantities in a short time.

Weight	pounds	32½
Chops per Minute	"	1
Shipping Weight	"	45
Price	each	18 00

For Nearly a Century the Stove of Service.

WHITE MOUNTAIN ICE CREAM FREEZERS

HAND FREEZERS WITH CRANK

Fig 32776A

The beaters are malleable iron tinned Other features are the strong waterproof tubs, heavy cans, nicely galvanized castings and superior workmanship

Sizes, 1, 2, 3, 4 6, 8, 10, 12, 15, 20 and 25 quarts

HOTEL OR CONFECTIONERS' FREEZERS WITH FLY-WHEEL

Fig. 32776B

The larger size of the White Mountain Freezer is especially designed to meet the needs of hotels, cafes and ice cream parlors and will stand up under the strain of constant use. The balance fly-wheel saves time and labor in freezing

Fly-wheels can be had for the smaller size of freezers if desired

Made in 12, 15, 20 and 25-quart sizes.

PARTS FOR HAND FREEZERS

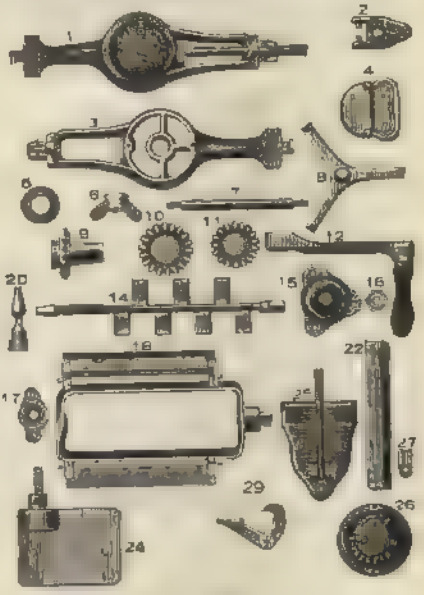


Fig. 32776C

No.	Description
1	Gear Frame, with Gears (1 to 10 qt.)
2	Small Ear (1 to 10 qt.)
3	Gear Frame, without Gears (1 to 10 qt.)
4	Tub Handle (10 to 25 qt.).
5	Ring for Cover of Can
6	Thumb Nut (12 to 25 qt.).
7	Shaft.
8	Can Socket
9	Shank Gear
10	Top Gear
11	Screw Gear
12	Crank
14	Inside Beater
15	Large Center (12 to 25 qt.).
16	Shaft Nut (12 to 25 qt.).
17	Small Center (1 to 10 qt.).
18	Outside Beater.
20	Spindle
22	Wood Scraper.
24	Large Ear (12 to 25 qt.)
25	Large Latch (12 to 25 qt.).
26	Gear Cap.
27	Wood Scraper Holder
29	Frame Latch (1 to 10 qt).

Big Possibilities—

The public's eyes are opening wider every day.

They must be shown the exact amount of gasoline they buy.

The Guarantee Visible Pump does it.

Also they must know the exact amount of gasoline they purchase.

That's why they prefer to buy from the Guarantee Visible.

They know its accurate measuring device is automatic. It cannot measure incorrectly.

Let us show you the big possibilities of selling more gasoline with Guarantee Visible Pumps.

Address Dept. T. J.

THE GUARANTEE LIQUID MEASURE CO.
Rochester, Pennsylvania

Guarantee Visible Pump

Supreme AUTO OIL

LOOK for the Sign of the ORANGE DISC

THOUSANDS of motorists, north and south, are daily looking for *The Sign of the Orange Disc*—they seek the assurance of quality products.

The dealer who displays this sign profits by the expansive scope of our advertising. If you do not have a contract it will pay you to get in touch with one of our salesmen covering your territory.

The price, quality and service are right.

GULF REFINING COMPANY

General Sales Offices: **Pittsburgh, Pa.**

District Sales Offices:

New York **Philadelphia** **Boston**
Atlanta **New Orleans** **Houston**

G-E ELECTRIC FANS

ALTERNATING CURRENT

G-E WHIZ FANS

Fig. 40619A

Non-oscillating type, 9-inch, four-blade. The G-E Whiz Fan is the latest addition to the G-E line of electric fans, designed to fill the demand for a small efficient fan at an economical price. It is 12 inches over all and weighs only 7 pounds. Finished in dark green, complete, including blades.

No. Cycles	Voltage	Speed R. P. M	Price Each
60	110	1500	10.00

9-INCH, FOUR-BLADE FANS

OSCILLATING AND NON-OSCILLATING

Fig. 40619B

OSCILLATING TYPE

No. Cycles	Voltage	Speed R. P. M	Price Each
*25	110	1650–1200	25.00
*40	120	1700–1150	25 40
60	110	1500–1200	23 75
60	220	1500–1200	25 25

NON-OSCILLATING TYPE

No. Cycles	Voltage	Speed R. P. M	Price Each
*25	110	1650–1200	21 00
*40	120	1700–1150	20 25
60	110	1500–1200	19.50
60	220	1500–1200	21.00

*Furnished in the series commutator type.

12 AND 16-INCH, FOUR-BLADE FANS

OSCILLATING

Fig. 40619C

12 INCH

No. Cycles	Voltage	Speed R. P. M	Price Each
*25	110	1600–1300–1000	35 50
*40	120	1600–1400–1000	35 00
60	110	1500–1400–1100	34 25
60	220	1500–1400–1100	35.75

16-INCH

No. Cycles	Voltage	Speed R. P. M	Price Each
*25	110	1500–1400–1000	41 00
*40	120	1500–1250–1000	40 25
60	110	1400–1200–1050	39 50
60	220	1400–1200–1050	41.00

12 AND 16-INCH, FOUR-BLADE FANS

NON-OSCILLATING

Fig. 40619D

12-INCH

No. Cycles	Voltage	Speed R. P. M	Price Each
*25	110	1600–1300–1000	27 50
40	120	1600–1400–1000	26.75
60	110	1500–1300–1000	26.00
60	220	1500–1300–1000	27 50

16-INCH

No. Cycles	Voltage	Speed R. P. M	Price Each
*25	110	1500–1400–1100	32 00
40	120	1500–1250–1000	31 25
60	110	1400–1200–1050	30 50
60	220	1400–1200–1050	32.00

Write us Your Requirements for Goods Not Listed.

REVOLVERS

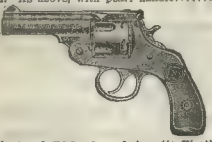
HARRINGTON & RICHARDSON Automatic & Hammerless Revolvers

PRICES QUOTED INCLUDE WAR TAX

HARRINGTON & RICHARDSON AUTOMATIC AND HAMMERLESS REVOLVERS are standard in design, barrel of drop forge, high quality steel, accurately bored, rimmed rifle. The cylinder is made from the finest hammered steel.

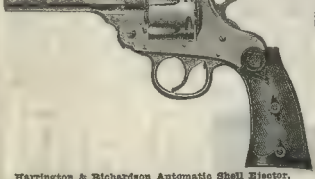
Harrington & Richardson "Young America" Revolver, double action, octagon barrel, fancy rubber stock. Shoots S. & W. cartridges, long and short. The revolvers may be had in nickel plated or blued finish. In ordering, unless specified, orders will be filled in nickel plated.

No. 3G1. 32 caliber, 7 shot..... 4.15
No. 3G2. As above, with pearl handle..... 5.75
No. 3G8. 32 caliber, rubber handle..... 4.15
No. 3G4. As above, with pearl handle..... 5.75



Harrington & Richardson Automatic Ejecting Revolver. Reliable and smooth working revolver for general service and protecting purposes. 3¼ inch barrel, fancy rubber stock. Following numbers may be had in either nickel plated or blued finish. In ordering kindly specify finish desired.

No. 3G9. 32 caliber. Each..... 7.50
No. 3G10. 38 caliber. Each..... 7.50



Harrington & Richardson Automatic Shell Ejector, Target Grip Revolver. Has 6 inch barrel, navy handle. Made from best material money can buy and represents extraordinary value. Same is of best steel. Barrel is made from high quality drop forgings. Excellently rifled. Shoots 32 and 38 S. & W. center fire cartridges. The numbers listed below may be had in nickel as well as blued finish. In ordering kindly state finish desired.

No. 3G32. 32 caliber, 5 shot. Each..... 9.25
No. 3G34. 38 caliber, 5 shot. Each..... 9.25

Harrington & Richardson "American" Double Action Revolver, standard arm at a low price, carefully and accurately made and a good shooter 2½ inch octagon barrel, fancy rubber stock, shoots S. & W. long and short cartridges. The revolvers may be had in nickel plated or blued finish. In ordering, unless specified, orders will be filled in nickel plated.

No.	Each
3G5. 32 Caliber, 6 shot	4.15
3G6. As above, with pearl handle	5.75
3G7. 38 Caliber, 5 shot, rubber handle	4.15
3G8. As above, with pearl handle	5.75

Harrington & Richardson Automatic Self-Ejecting Hammerless Revolver, has automatic shell ejector and independent cylinder stop. Absolutely safe, reliable and effective. Can be fired only by pulling trigger. 3½ inch barrel, fancy rubber stock. Following numbers can be had in nickel as well as blued finish. In ordering, kindly state finish desired.

No.	Each
3G11. 32 Caliber	8.25
3G12. 38 Caliber	8.25

No. 3G24. Harrington & Richardson Vest Pocket Safety Hammer Revolver. Made special for pocket use and possesses same desirable features as higher priced guns. 22 caliber, 7 shot, 1⅞ inch round barrel, nickeled.

Each..... 4.15

3G46. Same as above with pearl handle. Each 5.25

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE

GAS TUBING.

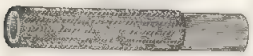
ALL RUBBER.

Plain rubber gas tubing of pure gum stock of the very highest quality. This tubing is red in color, soft and pliable and will not crack or tear. Construction is perfect, and the greatest of care and skill are used in its manufacture. It is built to give long and high grade service. Can be supplied in any lengths desired

	Net Per Foot
NO. 1 -Size ⅛ in. hole, ⅛ in. wall	$0.07
NO. 2—¼ in. hole, ⅛ in. wall	.08
NO. 3—¼ in. hole, ⅛ in. wall	.16

Weight 2 oz. per foot

PUMP TUBING.



WOVEN FABRIC COVERING.

A tubing of superior excellence due to new method of manufacture. Extra heavy best quality rubber, covered with a special braided fabric covering, securely vulcanized to the tube

	Net Per Foot
NO. 11—Size ⅛ in. hole	$0.14
NO. 12—Size ¼ in. hole	.18
NO. 15—Size ⅜ in. hole	.22
NO. 16—Size ½ in. hole	.30

Weight 3 oz. per foot.

COPPER TUBING.

This tubing is for use on gas lighting systems from the generator or tank to the front lamps; in fact, anywhere that strong, serviceable copper tubing is needed.

	Net Per Foot
NO. 25—Soft copper tubing, ⅛ in. O. D., 20 gauge (16 feet to the pound)	$0 24
NO. 30—Soft copper tubing, ¼ in. O. D., 20 gauge (12 feet to the pound)	26
NO. 40—Soft copper tubing, ⅜ in. O. D., 20 gauge (9 feet to the pound)	28
NO. 55—Soft copper tubing, ½ in. O. D., 20 gauge (7 feet to the pound)	.30

CLIPS FOR COPPER TUBING.

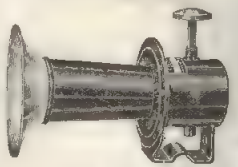
Used in attaching tubing to any part of car.

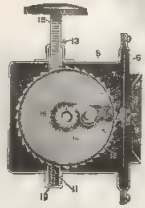
	Net Per 100
NO. 5—For ⅛ in. O. D. tubing	$2.00
NO. 6—For ⅛ in. O. D. tubing	2.00

Weight ¾ lb per 100

AUTOMOBILE HORNS.

HAND OPERATED.





INTERIOR VIEW.

Here is the horn sensation of the season. It is a thoroughly reliable horn, guaranteed for life, and one which by test and comparison will exceed in volume of sound all other signals.

This hand operated signal has the basic patent principal of fly-wheel momentum to produce a longer period of sound. Some of the principal features are simple construction, less parts, all wearing parts made of glass hardened tool steel, all perfectly lubricated, and it is provided with an adjustable improved bracket which will work on either the inside, outside or top of a fore door

	Net Each
NO. 599—All black	$5.00
In lots of 12	4.80

Weigh. 3½ lbs. each.

SHORT PROJECTOR.

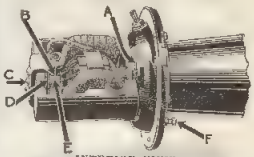
This horn is the same in construction as the No. 600 regular hand operated except that it has a short projector and is especially designed for use on motorcycles. It is a favorite with some **FORD** owners, however, as it is small and compact and produces an intense volume of sound. By taking off the bottom half of the bracket, it leaves the same style of support as is furnished with our No. 600 horn as shown on top of page.

	Net Each
NO. 649—All black	$5.00
In lots of 12	4.80

Weight 3 lbs. each.

AUTOMOBILE HORNS.

ELECTRIC.



INTERIOR VIEW.

Motor Driven.
Regular Outside Type.
6-8 Volt.

This Motor Driven Horn embodies all the latest features known to horn builders. It is unequalled for penetration and volume of sound. Handsome in design, popular in price, and fully guaranteed.

	Each
NO. 49—All black	$10.50
In lots of 12	9.40

Weight 4 lbs.

Motor Driven.
Under-the-Hood Type.

This horn is the same in construction as the No. 50 motor driven horn shown on this page. The only difference being that it is not fitted with a flaring bell as it is designed for use under the hood and out-of-the-way places where a horn with a bell could not be installed.

	Each
NO. 60—All black finish, 6-8 volt	$9.00
In lots of 12	8.60

PACKED ONE IN A BOX WITH CORD AND PUSH BUTTON

Weight 4 lbs. each

MONITOR GIANT.

MOTOR DRIVEN, UNDER-THE-HOOD TYPE.

A larger, longer and heavier horn than the No 60 shown on this page, it has an exceptionally loud, penetrating volume of sound. Monitor construction throughout, and fully guaranteed in every respect. Diameter of bell 3½ inches, length over all, 12 inches.

	Net Each
NO. 66—All black finish, 6-8 volt, packed complete with cord and push button	$16.00

Weight 6½ lbs

SEE NOTE ON LARGER VOLT HORNS.

Buy your Radiator Covers early and avoid the rush.

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE.

NOTE.
Electric Horns can be supplied for 12, 14 or 18 Volt Systems at an advance of 75 cents net on the above prices.

AUTOMOBILE HORNS.

FOR "FORD" CARS.

Under-the-hood—same in style, finish and construction as No. 60 horn, except that the motor is wound especially for **FORD** magneto current.

Net Each

NO. 39—All black finish, packed complete with cord and push button **$2.90**
In lots of 12 . . . . . **2.60**
Weight 2 lbs.

EXHAUST HORNS.

"AERMORE."

The ideal horn, called the signal with a smile because its combination of mellow pipe-organ tones sounded in unison, although securing instant attention, is cheering and agreeable at all times. It is a rich, harmonious chord, clear and penetrating and can be heard a long distance, yet does not startle or anger the pedestrian.

This horn is of high grade construction; does not become clogged, has no movable parts to wear or get out of order and is constructed of brass and steel, heavily nickel plated, with malleable iron fittings. Its installation is simple. It occupies out-of-the-way space, and best of all, its first cost is its last cost—there is no upkeep expense whatsoever.

Comes equipped with 1¼-inch Style "G" Valve to be attached to the exhaust pipe of car between engine and muffler and operated by a foot pedal.

Every Aermore is tested before shipped. Its tone, material and workmanship are guaranteed.

Net Each

NO. 1—16-inch Horn (for 30 to 60 H. P. cars), complete with 1½-inch Style "G" Valve, cable and pedal. . . **$14.00**
NO. 2—13-inch Horn (for 25 to 30 H. P. cars), complete with 1¼-inch Style "G" Valve, cable and pedal. . . . **12.60**
NO. 3—11-inch Horn (for **FORD** cars and cars 20 to 25 H. P.), complete with 1¼-inch Style "G" Valve, cable and pedal **11.20**
Other sizes of valves for other sizes of exhaust pipes can be supplied by factory shipment.

Weight 4½ lbs. each.

COMPRESSION WHISTLE

TRI-TONE

For Passenger Cars, Trucks, Motor Boats, Etc.

The Tri-Tone Whistle is designed to produce a harmonious blending of three tones similar to the tones of an organ. It can be attached to any passenger car, truck or motor boat in a few minutes by anyone—simply removing one of the priming cups and screwing in the valve. Costs nothing to operate—no battery necessary—nothing to break or get out of order—requires no adjusting. Made of cast bronze and aluminum and operated by cord from steering column.

Guaranteed perfect in workmanship and material and to give entire satisfaction.

For cars not equipped with priming cups an Adapter is used which screws into spark plug opening; no special spark plug required.

Net Each

NO. 68—Complete with Cord running up to steering wheel (wt. ½ lb. each) . . . **$7.40**
In lots of 12 . . . . . **6.60**
NO. 70—Adapters for use on cars without priming cups using ½ in. spark plugs (wt. ¼ lb.) **1.40**
NO. 71—Adapters for use on cars without priming cups using ⅞ in. spark plugs (wt. ¾ lb.) **1.40**
These Adapters also used with No. 68 Single-Tone Whistle.

SINGLE-TONE

Always Ready
A Warning Both Pleasant and Far Reaching

The design and construction of the Single-Tone Compression Whistle is similar to that of the Tri-Tone Whistle except that it produces but one tone which is a clear and effective warning signal.

Can be attached in a few moments to any passenger car, truck or motor boat simply by removing one of the priming cups and screwing in the valve. Fully guaranteed.

For cars not equipped with priming cups an Adapter is used which screws into spark plug opening; no special spark plug required.

Net Each

NO. 68—Complete with cord running up to steering wheel (wt. ½ lb. each) . **$5.40**
In lots of 12 . . . . . **4.80**

HORN PUSH BUTTONS.

For Use With Electric Horns.

Net Each

NO. 25—For steering wheel, made of brass nickel plated and thoroughly insulated **$0.80**
Weight ½ ounce.

"TIP TOP."

The "Tip Top" Button is absolutely water, grease and dust proof. Hard brass is used for the metal portions, and no part is constructed of steel or iron, which would rust or otherwise deteriorate. The contactor surface is about 1½ inches in circumference.

Net Each

NO. 8106F—Flush type for floor or dash. **$1.00**
Weight ½ ounce.

"TIP-TOP."

Net Each

NO. 8106C—With clamp for attaching to steering wheel . . . **$1.00**
Weight ½ ounce.

"TIP-TOP."

Net Each

NO. 8106B—With beveled plate for fitting to floor **$1.00**
Weight ½ ounce.

Pennants Made to Order

Not carried in stock, but are made to order only. Seven to ten days are required to manufacture. No C. O. D. orders filled for pennants on these items. Send cash with order.

Art Process Pennants

Pennant No. 4390. Art process letters in any solid color, on good quality felt, assorted colors, with felt headings and double felt ties.

No orders accepted for less than 300 of one design of lettering. Prices quoted are for wording in a single line only. For elaborate designs there will be an additional charge.

Size	Price per 300	500	1000
6x18	19.80	28.00	44.20
7x24	23.40	37.00	58.95
9x30	28.80	46.15	81.25
12x30	38.25	58.50	106.00
16x36	56.85	87.75	158.00

Pennant No. 4391. Art process. We make this pennant with lettering in any solid color; also with a design of the same color as the lettering. Designs can be had such as baseball player, football player, summer girl, etc. Made of standard grade felt in assorted colors, with felt heading and double felt ties.

No orders accepted for less than 300 of one design of lettering.

Size	Price per 300	500	1000
9x30	33.90	51.15	84.25
12x30	43.35	63.50	111.00
15x36	61.35	92.75	161.00

Pennant No. 4392. Colored design Art process. The letters are made in any solid color and the design can be had in one, two or three colors. When more than three colors are wanted there will be another charge. Work is exceedingly fine, making the pennant an attractive and ready seller. Made of standard grade felt in assorted colors with felt heading and double felt ties.

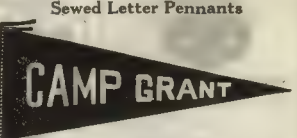
No orders accepted for less than 300 of one design of lettering.

Size	Price per 300	500	1000
9x30	39.40	58.85	99.25
12x30	47.85	71.00	126.00
15x36	66.00	100.25	176.00

Special Notice, when sending Pennant Orders:
Send sketch whenever possible.
Prices quoted are for single jobs.
When ordering two or more designs, each will be treated as a separate order and price based accordingly.

No. C. O. D. orders filled. Send cash with order.

Sewed Letter Pennants



No. 4393. Made of standard grade of felt in assorted colors. Letters are made of white felt and sewed on. These pennants have felt heading with double felt ties. We will furnish these pennants with any name of not over 12 letters in lots of one dozen or over at prices quoted below. On size 7x24, 2 dozen of any one name is the smallest order we can fill.

Size	Per Doz.
7x24 (no less than 2 dozen sold)	1.85
9x30	3.30
12x30	4.00
15x36	5.50
18x36	6.50

No. 4395. Made of high grade felt in large variety of bright and attractive colors, with felt heading and double felt ties. We will make to order any name containing not over 12 letters at prices quoted below.

For a high grade pennant this has no equal. Furthermore, we will make without any additional charge, size 12x30, 12x36, 15x36 and 18x36 with 2 color body, that is, we will make half the body red and balance blue or any other combination of 2 colors. In ordering, state kind of pennant wanted.

Size	Per Doz.
7x24	2.35
9x30	4.00
12x30	4.75
15x36	7.90
18x36	8.45
18x48	11.00

SPECIAL NOTICE—PRICE

Prices quoted on Sewed Letter Pennants are for words containing not over 12 letters and to be made on one line. There will be an additional charge of 40 cents a dozen pennants for each extra letter where additional letters are used. Monograms or special arrangements of words will be charged extra. If you have anything special, send in your sketch and state quantity and size and we will be pleased to quote prices.

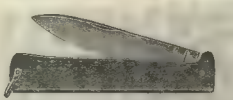
SPECIAL NOTICE—TIME

It requires from 7 to 10 days' time to fill made-to-order pennants. If you are ordering other goods besides pennants, it will be advisable to have the regular goods go forward at once and let the pennants follow when ready, so as not to delay your order.

SPECIAL NOTICE

While we do not illustrate an extensive line of special made-to-order felt goods, we are thoroughly equipped and in a position to make any article of this nature on short notice at the lowest possible prices. Send us a sketch or drawing of anything you need and we shall be glad to furnish estimates if desired before proceeding with the work.

High Grade Hunting Knives



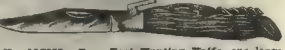
No. 10C228. Hunting Knife. Thin model, heavy black enamel finished metal handle, size closed 5¼ inches, with four inch spear point blade well ground, tempered and sharpened. Blade is held securely each by spring inside, which, by pressing one side, releases the blade. Complete with ball for hanging to belt or chain. One dozen in box. Per dozen... 2.25

No. 10C233. Hunting Knife. Size closed, 5¼ in. Heavy polished steel bolster and shield. One dozen in a box. Per dozen..... 3.00

Hunting Knife. Genuine deer foot handle, nickel ferrule steel double guard, extra large, finely polished steel blades; swaged back on both sides. One of the best values in a deer foot hunting knife shown. A big flashy and showy quality and really good article in itself. Each in case with metal protected point. ½ dozen in box.

10C226. 4-in. blade, entire length 8½ in. Doz. 8.00
10C227. 5-in. blade, entire length 9⅝ in. Doz. 9.00
10C223. 6-in. blade, entire length 10¾ in. Doz. 9.75

No. 10C829. Hunting Knife. Genuine deer foot handle, metal hoof plate, full size; curved fancy guard and ferrule, each in strong rigid sheath metal tipped; 5½-inch blade. ½ dozen in box. Doz. 11.50



No. 10C825. Deer Foot Hunting Knife, one large quillter blade polished, self-locking brass bolster, polished steel lined, with strong corkscrew. Genuine deer foot handle, with ring, natural hair and polished hoof, 8⅝ inches long. ½ dozen in box. Per doz..... 15.00

No. 10C804. Deer Foot Hunting Knife, genuine deer foot handle, clipper shape razor steel swaged blade. Brass lined, patent spring back, with fancy bolster and self-locking guard. Length 8½ inches. ½ dozen in box. Per doz..... 17.50

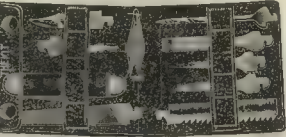
No. 10C803. Deer Foot Handle Hunting Knife. Two blades, one 4 in., the other 2½ in., self-locking when opened. Pressing on small blade releases the spring and the large blade shuts; fancy brass bolsters and brass lined. Genuine deer foot handle, fine polished corkscrew at back. Length 8½ inches. ½ dozen in box. Per doz..... 19.50

Pocket Knife Tool Kit

No. 10C79. Pocket Knife Tool Kit, comprising a cocoa handle jack knife, 6½ inch open, and 5 extra tools which can be attached to handle. High grade steel carefully tempered. File, reamer, cork puller, screw driver and chisel, in seal grain leather pouch. Size, 3x4½ in.

Per dozen kits..... 16.50 | Per kit..... 1.45

Jack Knife Tool Kit



No. 10C852. Jack Knife Tool Kit. From a standpoint of utility this may be properly considered as one of the best little combinations for a mechanic, a farmer, and an ordinary tinker or artisan. This kit consists of:

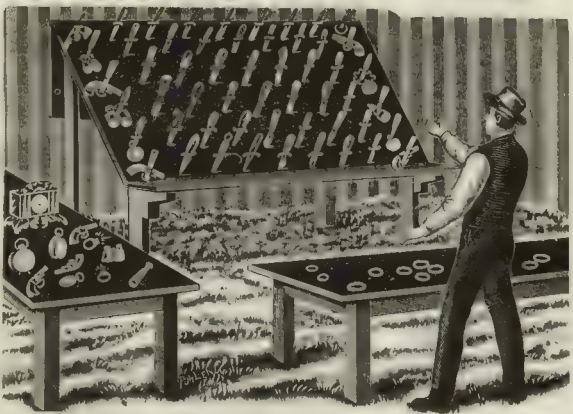
1 Jack knife.
1 file, screw driver end.
1 claw hammer.
1 can opener.
1 gimlet.
1 chisel.
1 boring reamer.
1 screw driver.
1 saw-blade.
1 3-in. rule which forms sheath for saw-blade.
1 leather double pocket.

Each tool is held under strap in the double fold leather roll or pocket, with an overlapping flap that fastens with two snap buttons. The kit is of very heavy leather, carries the tools safely, makes a compact package, fits in any pocket.

Per dozen kits..... 22.50 | Per kit..... 2.00

Pocket Knife Assortments

For Knife Rack Men or Dealers



We have again, after many years' absence, a complete assortment of Pocket Cutlery suitable for Knife Racks.

Having made a specialty in selecting this class of merchandise, we are authoritative to suggest the right numbers and those most popularly in demand, and that appeal to the public.

Our knife assortments have been selected very carefully, giving the maximum value and largest assortment of style possible.

Our "Starter" Pocket Knife Assortment comprises 100 knives. The majority of the assortment is made of the staple styles and price goods. They include all the popular shapes and kinds of handles

No. 9C200. Per assortment..... **5.00**

Our "Advance" Knife Assortment consists of 150 knives. It is a clever combination of knives, including all the popular and well known kinds and shapes of handles.

No. 9C200. Per assortment..... **10.00**

Our "Top Notch" Knife Assortment consists of 200 pocket knives, ranging in price from 75c a dozen up. The bulk of this assortment is, of course, made up of the popular low and medium-priced goods, so as to get the biggest variety possible; and it has a sprinkling of the flashy goods, which makes it doubly desirable, as it has the appearance, the quality and quantity. All styles of handles, shapes and kinds represented

No. 9C207. Per assortment . **15.00**

Our Matchless Knife Assortment consists of 200 knives—pocket and jack knives, sheepfoots, hunting knives, in the best of variety of styles and kinds of handles, ranging from 75c to $3.60 a dozen. Bulk made up of the popular medium priced goods, with a generous sprinkling of the flashy styles. In view of this, this is one of the finest assortments ever offered and big and complete enough for the most exacting knife-boardman or dealer. No item that is desirable as an attraction or a good seller is omitted from this variety.

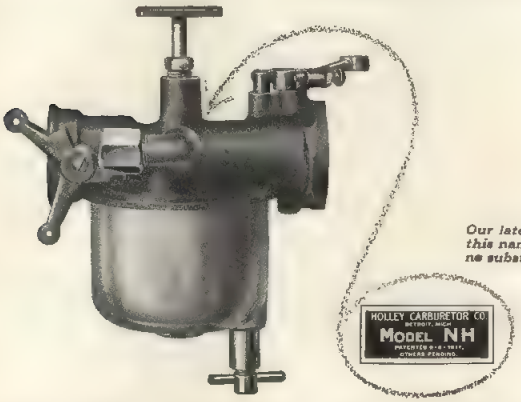
No. 9C209. Per assortment..... **25.00**

LEATHER BOUND MALLETS

No. 10C700. Mallet, 2¼ inches, select fine grain natural wood oil finished, with genuine rawhide bound ends, guaranteed not to split, employed by knifeboard men driving knives into the display table; best quality Each..... **1.10**

HOLLEY

Here's the Most Efficient Carburetor for Fords



Our latest model bears this nameplate; accept no substitute.

The most efficient carburetor ever designed for use on a Ford is the new Holley Model NH.

In designing it Holley engineers considered every requirement of a Ford motor. As a result this carburetor is the best that can be attached to a Ford motor.

It is so constructed that cold gasoline is lifted off the nozzle and into the main air stream, insuring a quick start at all times. This Holley model enables the driver to accelerate the car to its maximum speed almost instantly.

Smoothness of operation and increased mileage are assured cars equipped with this new Holley carburetor. It is not an experiment—long and successful tests prove it to be the best carburetor for a Ford.

Our descriptive booklet will be sent upon request.

HOLLEY CARBURETOR COMPANY
DETROIT

(66)

HOLLEY MOTOR PRODUCTS
FOR TRUCKS, TRACTORS AND AUTOMOBILES

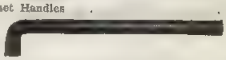
EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE.

EXTRA MOSSBERG REPLACEMENT PARTS.

	Net Each
NO. 801—Pressed Steel Sockets (any size).....	$0.50
NO. 802—Spark Plug Socket Wrenches..	.32

NO. 850—Reverse Ratchet Socket Handles. $3.50

NO. 855—Ratchet Handles . . . 1.76



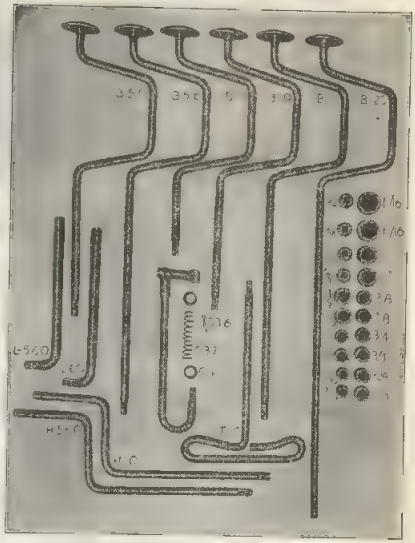
NO. 822—Double End Offset and Vertical Handles .50

NO. 840—Take-Down Tee Handles.... . . .84

NO. 836—Universal Joints ..... .78

NO. 851—Extension Tubes ..... .84

"HOLLEY" COMBINATION WRENCH SET.



70 Size Combinations—200 Operations.

A wrench for every place and a socket for every bolt. This kit represents higher efficiency and lower costs on service floor. Heated, treated sockets. Guaranteed.

This set is especially designed for speeding up operations on **FORD** cars and contains sockets to fit the following: Crank case, rear axle housing ball cap screws, running board to fender bolt nuts, muffler bracket, cylinder head cap screws, radiator tie rod, radiator stud nuts, rear axle lock nuts, drive shaft pinion lock nut, rear spring perch nut, and in fact all cap screws and nuts on a **FORD** or almost any other make of car.

A wrench combination perfectly adapted for the work on any motor car, with which time and labor cost to the customer may be economized, and the productiveness of the wrenches are equivalent to 88 solid socket types of wrenches packed in a compact tool case. These cases are substantial and should be a great help and convenience to the mechanic.

Each tool kit is provided with a twenty socket container and makes the sockets easy of access and avoids misplacement of any of the different sizes, the list of adaptions and contents of this kit must be read carefully to give an idea of the great efficiency and service that it really brings or means to the garage man.

	Net Per Set
NO. 10—Set complete	$42.00

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE

TAPPET WRENCH SET.

"BONNEY."

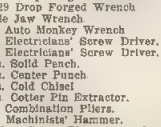
The Bonney Valve Tappet Wrench Set—three pair of finely finished, extremely thin, strong wrenches especially designed for the difficult and delicate operation of adjusting valve tappets.

The No. 6 Set consists of two each of three different size wrenches. The reason for pairs is because in many tappet assemblies two nuts of exactly the same size are used to lock against each other. It is, therefore, necessary that one nut be held while the other is tightened.

This set fits the six different S. A. E. nuts most commonly used on valve tappets, namely, ¼, ⅜, ⅞, 7/16, ½ and ⅝ inch, and therefore covers practically the entire range of cars.

	Net Per Set
NO. 6—Packed one set in a canvas roll	$4.00

TOOL KITS.



"STERLING."

This is a first-class tool kit equipped with practical and serviceable high grade tools—not a large number of cheap useless articles.

Roll made of heavy duck with pockets trimmed.

List of Tools.

No. 23 Drop Forged Wrench.
No. 25 Drop Forged Wrench
No. 29 Drop Forged Wrench
Single Jaw Wrench.
9 in. Auto Monkey Wrench
3 in. Electricians' Screw Driver.
4 in. Electricians' Screw Driver.
⅜ in. Solid Punch.
⅝ in. Center Punch.
½ in. Cold Chisel.
⅞ in. Cotter Pin Extractor.
6 in. Combination Pliers.
8 oz. Machinists' Hammer.
One box Cotter Pins, assorted.

	Net Each
NO. 1—Size 12x4½x3¾ in., containing 14 pieces, weight 7 lbs. per set	$6.50
NO. 11—Extra Rolls	1.20

ONE SET IN A PACKAGE.

TOOL KITS.

"TOURIST."

This assortment is used by the majority of the medium priced car manufacturers and contains an assortment that appeals to the prospective buyer who will do most of his own repair work.

All high grade tools.

Consists of the Following Tools.

No. 23 Semi-finished 15° Angle Drop Forged Wrench.
No. 25 Semi-finished 15° Angle Drop Forged Wrench.
No. 27 Semi-finished 15° Angle Drop Forged Wrench.
No. 29 Semi finished 15° Angle Drop Forged Wrench.
Single Jaw Wrench.
9 in. Mottled Auto Monkey Wrench.
3 in. Elec. Round Shank Screw Driver.
5 in. Square Shank Screw Driver.
9 in. Machinists' All-Steel Screw Driver
7 in. Flat File.
File Handle.
6 in. Mottled Adj. Comb. Plier.
⅜ in. Solid Punch, half polished, ¼ in. pt
⅝ in. Center Punch.
½ in. Cold Chisel.
½ in. Cape Chisel.
⅞ in. Cotter Pin Extractor.
8 oz. Machinists' Ball Pein Hammer.
No. 1 Machinists' Bearing Scraper.
Box assorted Cotter Pins.

	Net Each
NO. 2—Size 13½x4x5½ in., containing 20 pieces, weight 8 lbs. per set	$11.10
NO. 21—Extra Rolls	1.70

TOOL KITS.

"CHAUFFEUR."

Designed to meet the demand for a medium priced outfit. A choice assortment of practical tools, high grade and warranted perfect in quality and design; at the price this kit cannot be excelled.

Consists of the Following Tools.

No. 23 Semi-finished 15° Angle Drop Forged Wrench.
No. 25 Semi-finished 15° Angle Drop Forged Wrench.
No. 27 Semi-finished 15° Angle Drop Forged Wrench.
No. 29 Semi-finished 15° Angle Drop Forged Wrench.
10 in Stillson Wood Handle Pipe Wrench
9 in. Mottled Auto Monkey Wrench
5 in. Nickel Plated Bicycle Wrench.
6 in. Adjustable Com. Plier, mottled.
3 in. Elec. Round Shank Screw Driver
5 in. Elec. Square Shank Screw Driver.
6 in Offset Drop Forged Screw Driver.
9 in Machinists' All Steel Screw Driver.
⅜ in. Solid Punch, half-polished, ⅛ in. pt.
⅝ in. Solid Punch, half polished, 7/16 in. pt.
⅞ in. Solid Punch, half polished, ¾ in. pt.
⅝ in. Center Punch, half polished.
⅞ in Cotter Pin Extractor, full polished.
No. 1 Machinists' Bearing Scraper.
8 oz. Machinists' Ball Pein Hammer.
6 in. Side Cutting Plier
4 in. Flat File with handle.
8 in. Flat File with handle.
7 in Round File with handle.
8 in Square File with handle.
⅝ in. Cold Chisel, half polished.
½ in. Cold Chisel, half polished.
Spark Brush Plug.
½ in. Cap Chisel, half polished.
Box Solder Paste.
Box Assorted Cotter Pins.
Bundle Wire Solder.
Soldering Copper with handle.
Bundle 15 Copper Wire.
Bundle 20 Copper Wire.

	Net Each
NO. 3—Size 16½x3¾x6 in., containing 34 pieces, weight 8 lbs. per set	$24.70
NO. 30—Extra Rolls	6.20

SEE OUR COMPLETE LIST Of Replacement Automobile Springs For Any Car Made.

Write for Dealer's Sales Help and Advertising.

CARBURETORS.

HOLLEY MODEL G.

FOR MODEL T FORD CARS.

A High Grade Carburetor; Low Fuel Consumption; High Speed and Quick Acceleration; Low Speed without missing; Makes Car Run Smoother under all Driving Conditions.

Provided with an Intake Shutter and Spray Nozzle so Constructed that Driver can start Engine on Second Turn of the Crank; Removable Steel Inlet Needle and Removable Seat; Gasoline can be let out of Float Chamber through Patent Drain Cock on Bottom of Float Chamber; Motor can be operated from Idle to the Maximum Speed of 45 Miles per Hour; These Speeds can be obtained without changing adjustments of Needle Valve.

Each

No. FG—Weight each about 7 lbs..... .....**$10.50**

One in a Cardboard Box.

TIMERS.

J & B.

FOR MODEL T FORD CARS.

One-piece Pressed Steel Case, Parker Rust-proof Finish; High Grade Fibre Insulating Ring, with Cold Rolled Steel Contacts; Brass Terminal Nuts; Spring Hinge Covered Oil Hole.

Roller Assembly has Special Hardened Steel Roller and Roller Pin Bushing, Steel Rivet Roller Pin, Stamped Steel Side Members, Cast Brass Rotor Hub, and Heavy Music Wire Spring, which is Tensioned by Projecting Rivets through Side Members.

Each

No. 2—COMPLETE; Weight each about ¾ lb.....**$2.20**

One in a Cardboard Box.

WHEEL PULLERS.

CRANE'S

Powerful and Efficient for quickly and safely removing Automobile and Truck Wheels, Flywheels, Cams, Collars, Sprockets, etc.

Highest Grade Materials throughout and Especially constructed to withstand the rough use and abuse incidental to ordinary Repair Shop Practice.

Thoroughly guaranteed by factory against Defective Material and Workmanship.

Holes Drilled in Frame permit adjusting of Locking Arms to hold Parts of Various Diameters; Wheels removed by turning down Square Head Threaded Shaft in Center.

REGULAR GARAGE SIZE.

For Fords and Medium Weight Cars; Complete with One Set of 8 In. and One Set of 10 In. Locking Arms; Takes Diameter up to 11 In.

Each

No. 2/2—Two Arm; Weight each about 30½ lbs.....**$15.40**

No. 2/3—Three Arm; Weight each about 29 lbs.....**20.50**

HEAVY CAR AND TRUCK SIZE.

Complete with One Set of 7 In. and One Set of 11 In. Locking Arms; Takes Diameter up to 16 In.

Each

No. 3/2—Two Arm; Weight each about 21½ lbs.....**$15.00**

No. 3/3—Three Arm; Weight each about 44 lbs..... 25.00

One in a Wood Box.

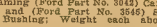
REAMERS.

ALVORD—FOR FORD CARS.

Finest Tool Steel.

Each

No. 3031—For Reaming (Ford Parts Nos. 3021, 3032 and 3023) Crankshaft or Main Bearing Bushings; Reams the Three Bushings at One Time and Secures Perfect Alignment; The Three Lands or Cutting Portions are Staggered to prevent Chatter; Length over all 26 in.; Weight each about 3 lbs.....**$21.00**



Finest Tool Steel, Solid Type; Staight Fluted Pattern.

Each

No. 3042—For Reaming (Ford Part No. 3042) Cam Shaft Front Bearing, and (Ford Part No. 3545) Steering Post Bracket Bushing; Weight each about 1¼ lbs. **$3.20**

No. 3052X—For Reaming (Ford Part No. 3052X) Valve Stem Bushing; Weight each about 1 lb..... 2.40

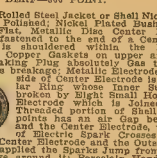
No. 3220/C—For Reaming (Ford Part No. 3220/C) Driver Gear Sleeve Bushing, and (Ford Part No. 3227B) Driving Plate Bushing; Weight each about 1½ lbs. **5.00**

No. 3820—For Reaming (Ford Part No. 3820) Front Spring Perch Bushing, and (Ford Part No. 3244) Rear Spring Perch Bushing, Weight each about 1¼ lbs. **2.70**

One in a Cardboard Box.

SPARK PLUGS.

DERF—360 POINT.



Cold Rolled Steel Jacket or Shell Nickel Plated and Polished; Nickel Plated Bushing Nut; Thin, Flat, Metallic Disc Center Electrode firmly fastened to the end of a Center Stem which is shouldered within the Porcelain against Copper Gaskets on upper and lower end, making Plug absolutely Gas tight and prevents Breakage; Metallic Electrode on outside of Center Electrode is a Circular Ring, whose Inner Surface is broken by Eight Small Holes; This Electrode which is Joined to the Threaded portion of Shell at Two points has an air Gap between it and the Center Electrode, the Flow of Electric Spark Crosses the Air Gap between the Center Electrode and the Outside Disc When Current is applied the Sparks Jump from Disc to Circle and Revolve around it; Porcelain Hand Turned from Imported Clays; Universal or Slip on Terminals; Burns Less Fuel and gives quicker and more complete explosions and more Power.

Each

No. 36½—½ IN. **$2.00**

No. 36R½L—½ IN.; LONG; For Reo Cars..... 2.00

No. 36¾—¾ IN. 2.00

No. 36P¾—¾ IN.; For Packard Cars..... 2.00

No. 36¾L—¾ IN.; EXTENSION ¼ IN. BELOW THREADS 2.00

No. 36M—METRIC 2.00

One in a Carton; Weight each about 4 ozs.

AUTOMOBILE WRENCHES.

5 IN 1.

FOR FORD CARS.

Malleable Iron, Black Japanned; Especially Designed for Champion Spark Plugs; Can also be used on all Standard ½ in. Plugs; Length over all 7½ in.

Each

No. 51—ROSEL COMBINATION **$0.68**

Packed Loose.

Weight each about ⅛ lb.

The Large Tapered Hexagon section of Wrench removes the Spark Plug from the Engine; Small Tapered Hexagon section in the reverse side of the Wrench removes the Nut which holds the Porcelain in place; The Alligator section in the handle removes the Cap and Square Nut which holds the Wire to the Plug; Small Machined section in the Extreme End of Handle is used as a Spacer giving Correct distance for Ignition and also used as a Screw Driver for Light Work.

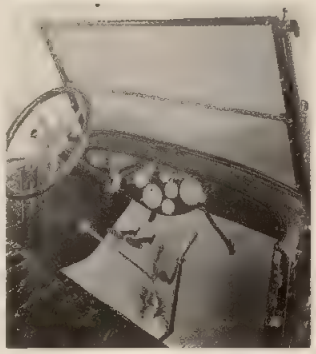
New Cars and Models

Hudson Super-Six Improvements

AN announcement just received from the Hudson Motor Car Co., of Detroit, gives details of numerous improvements made in the Hudson Super-Six. The important changes are illustrated herewith, among them being the control arrangements and general driver's compartment improvements, the ease of control, slight change in the equipment of the engine and the use of a new type of chassis oiling system.

The change in shape of the instrument board gives more room for the occupants, and instruments are artistically grouped in the center, the dashlight being placed at the top.

The clutch thrust-bearing grease cup used in previous models has been eliminated by redesigning the clutch and incorporating a large annular ball throwout bearing lubricated by clutch oil. The oiling system consists of a new type of oil cup, illustrated herewith, which is filled by a pump oiler furnished with the car. Deep crown fenders are another change. The front fenders have aprons that extend to the extreme front end of the spring hangers and there is a splash apron between the front spring horns giving further protection. Slight improvements have been made in the top curtain arrangement to give better protection, and cord tires are now standard equipment on all models.



New Style Hudson Dash and Controls

The most important changes in the latest Hudson Super-Six is in the driver's compartment. This has been redesigned. Changes made in connection with the steering wheel, pedals and control levers action greatly facilitates the operation of the car. Steering is exceptionally easy, as is the operation of the clutch and service brake pedal. The accelerator is now placed on the right of the brake pedal. It will also be noticed a ball and cone type of gear-shift control is used.

Right Side of New Hudson Engine and Also the New Oil Cup

In the illustration of the engine is shown the new air intake which feeds heated air to the carburetor on the opposite side of the engine. The spark plug arrangement is also slightly different and the air intake manifold. These are stated to give quick starting under adverse weather conditions. The illustration of the new oil cup used on the improved Hudson is shown in section. The oil cups can be quickly filled with a pump oil can, which is furnished as standard equipment and dust is excluded by the convex member and spring.

Flower Baskets, Pillowtops, Hulu-Hulu Dancer, Etc.

Palmetto Palm Plants

Nothing in the line of decorations lends so pleasing an appearance to any establishment as palms. They require absolutely no attention with the exception of an occasional dusting. The palm plants are in a woven basket.

No. N622. Palmetto Palm Plant, 24 inches high with 3 leaves. Packed 1/2 dozen in box.
Per dozen 8.50

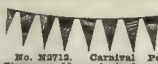
No. N623. Palmetto Palm Plant, 36 inches high with 5 leaves. Packed 1/3 dozen in box.
Per dozen 12.00

No. N625. Palmetto Palm Plant, 48 inches high with 6 leaves. Packed 1/6 dozen in box.
Per dozen 16.00

No. N624. Mixed Flower Basket, handsome reed basket, height 14 inches, finished in mahogany color, filled with artificial moss, green sprays, leaves and twigs, complete with five large silk and velvet finished orchids in natural colors. Each in box.
Per dozen... 16.50 | Each... 1.45

No. N4451. Tapestry Pillow Tops. A handsome assortment of different subjects, including landscapes, children, etc. Executed in beautiful, harmonious colors. An article of unusual beauty as well as utility. Size 18x15½ inches with 3¼ inch knotted fringe.
Per dozen 12.00

Carnival Pennant Streamer



No. N3712. Carnival Pennant Streamer, 12 good sized pennants to streamer. Assorted designs and colors, made of strong cloth. Width 8½ inches, length 12¼ in Size of each pennant.
Per dozen streamers..... 4.50

Colored Raffia

No. N92069. Red Raffia Roping, for decorative purposes, width ⅝ inch, 60 yards to a roll. This raffia is extra strong.
Per roll (60 yards)..... .65
Per roll (100 roll lots)..... .55

No. N92070. Green, same as above
Per roll (60 yards)..... .55
Per roll (100 roll lots)..... .55

No. N607. Flower Basket. Reed basket, finished in ivory white, height 17 inches; filled with artificial ferns and moss and assorted flowers, roses, pansies. One in box.
Dozen 3.25
Each. .30

Hulu-Hulu Dancer

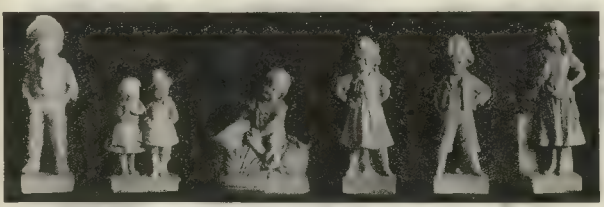
It has the action that makes the sales.

No. N3451. Hulu-Hulu Dancer, is the biggest selling doll novelty today. Height 13 inches, made of unbreakable composition. Natural tinted body and features, painted shoes, large, mischievous black eyes, movable arms, hair wig with marabou, complete with Hawaiian skirt. The long running spring motor gives the dancer the genuine "Hulu-Hulu" movement. Each in box. Per dozen..... 21.00

WEATHER HOUSE

No. N363. Weather House, an artistically made and finished miniature house, height 8 inches. The figures of the man and woman foretell weather conditions. The man will come out from 8 to 24 hours ahead of a rain; for fair weather the woman will appear, and for changeable weather both will remain at the doors. The thermometer is long range Fahrenheit, accurately recisering the temperature. Each in box.
Per dozen 4.00

Parisian Art Statuary Assortment



Parisian Art Statuary Assortment. Consists of six full figures, copies from noted French masterpieces. Each original piece is famous because of the true human likeness the sculptor was able to model into these beautiful worked out designs. These copies are reproduced in composition and measure from 10 to 14½ inches in height

No. N6512. Six subjects assorted, in old ivory finish. Two dozen in barrel. Per barrel 12.00

No. N6513. Six subjects assorted, in tinted colors. Two dozen in barrel Per barrel 16.50

No. 6511

No. 6507

N6709

Alabastrite Marble Statuary

The modelings are perfect in every detail and exact reproductions of world famous subjects.

No. N6511. Bust Figures. One each of Priscilla, Joan of Arc, Beethoven and Mozart, four figures assorted. Average height 4½ inches; ½ dozen in package. No less sold

Per dozen 2.75

No. N6507. Bust Figures. One each of Schiller, Goethe, Mozart, Wagner, Liszt and Shakespeare, six figures assorted. Average height 6⅞ inches; ½ dozen in package. No less sold.

Per dozen 4.50

No. N6509. Full Figures. One each of Venus and Rebecca, copies of famous masterpieces; height 8½ inches. Two kinds assorted in package No less sold. Per dozen 7.00

No. N6510. Full Figures. One each, boy and girl; perfect reproductions of famous masterpieces; height 10 inches. Two kinds assorted in package No less sold. Per dozen 13.50

DECOYS.

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE

WOOD DUCKS.

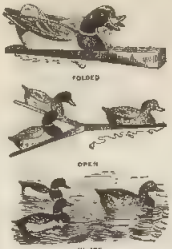
CEDAR.

With Glass Eyes. Net per doz.

NO. 1 Extra quality, mallards only, selected white cedar, nicely painted, true to life, with glass eyes, assorted two-thirds male and one-third female, weight 30 lbs. per dozen..... $18.00

ONE DOZEN IN A WIRE WOUND WOOD BOX

PROFILE FOLDING DUCKS.



ILLINOIS RIVER.

These folding profile decoys are attached to a wooden float in groups of three, two male and one female. The float is in three pieces, joined at one end with a three plate hinge so that when extended a bird floats at each extremity.

Four floats take one dozen of the decoys. One cord and anchor for each group of three decoys. Net per doz.

NO. 5—Wood, profile, folding, three ducks in a group, two male and one female, painted in natural colors to represent male and female mallards, canvas backs, blue bills, black mallards, whistlers, red heads, teal and wid geons, weight 11 lbs. per dozen $14.70

Mallards will always be sent unless otherwise specified

ONE DOZEN IN A LIGHT STRONG CARRY BOX

JOHNSON'S FOLDING PAPER DUCK DECOYS.

Good photographic reproductions of Mallards. Canvasbacks and Bluebills are printed in natural colors on tough jute fibre board similar in strength and thickness to stock used in the manufacture of high grade shot gun shells, so thoroughly waterproofed that they last indefinitely when properly cared for.

The decoys weigh six ounces each, and are composed of the paper body which folds flat, with full instructions for different ways of using printed on the bottom of each Decoy.

The thin board float, also thoroughly waterproofed, slides snugly inside the body to spread the Decoy and float it.

A balancing device attached to the float makes tipping impossible

Net per doz.

JOHNSON'S DECOYS—Retail price 55c each **$8.80**

EACH DOZEN ARE PACKED IN TWO COMPACT CANVAS BAGS WHICH CAN BE CARRIED IN A HUNTING COAT. WEIGHT 100 LBS. PER GROSS

Net per doz.

Johnson's Paper Bodies Only, without float, ...Retail price each $0.85 **$6.00**

FOLDING DUCKS.

AUTOMATIC. Net per doz.

NO. 30—Wood base, waterproof canvas form, nicely painted, very lifelike, mallards only, one-half male and one-half female, with anchor and cord attached ready for use, folding galvanized wire frame, weight about 16 lbs. per dozen $18 20

ONE DOZEN IN A CARTON.

THE IMPERIAL BRASS MFG. CO.

Oxy-acetylene Welding and Cutting Equipment and Acetylene Generators

1228 West Harrison Street, CHICAGO, ILL.

Products.

IMPERIAL WELDING, CUTTING, CARBON and LEAD BURNING EQUIPMENT.

IMPERIAL AUTOMATIC ACETYLENE GENERATORS for Welding and Cutting.

IMPERIAL OXYGEN HYDROGEN EQUIPMENT.

Also manufacturers of Watrous Patent Plumbing and Liquid Soap Fixtures, Automotive Accessories, Special Building Hardware, Cast Bronze Signs and Name Plates.

Imperial Welding, Cutting, Carbon and Lead Burning Equipment.

Imperial oxy-acetylene process equipment is thoroughly practical, economical and safe. It is furnished in four outfits as listed below to meet the various requirements of service.

The mixing principle of Imperial torches is scientific and practical. They are approved by the Underwriters' Laboratories of the National Board of Fire Underwriters. No other regulator so accurately and uniformly controls delivery of gases; none has its automatic safety features.

No. 1 Imperial Welding and Carbon Burning Outfit—For all general welding work from thin sheet metal to heaviest castings.

Consists of Type B Imperial welding torch with 10 welding tips, extension, carbon burning torch, regulators, 4 gages, hose, connections, goggles, handbook carrying case, complete supply of welding materials, ready for service. Each $90.00.

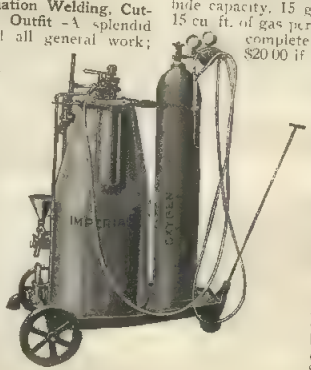
No. 3 Imperial Cutting Outfit—For light and heavy cutting of steel and wrought iron.

Consists of Type E Imperial cutting torch with 2 housings and 4 tips, regulators, 4 gages, hose, connections, goggles, handbook, carrying case, etc., complete, ready for service. Each $115.00.

No. 4 Imperial Combination Welding, Cutting and Carbon Burning Outfit—A splendid equipment for garages and all general work; combination welding and cutting torch performs both operations.

Consists of Type B Imperial welding torch with cutting attachment, 10 welding and 3 cutting tips, carbon burning torch, regulators, 4 gages, hose, connections, goggles, handbook, carrying case, complete supply of welding materials, ready for service. Each $110.00.

No. 5 Imperial Duplex Welding, Cutting and Carbon Burning Outfit—Best all-purpose apparatus obtainable at any price. Fully adequate to handle all welding and cutting for which the process is adapted.



Imperial Welding Outfit as Used with Imperial Acetylene Generator

Consists of a complete No. 1 Imperial welding outfit as described above and also includes a Type E Imperial cutting torch with 2 housings and 4 tips, an extra pair of goggles and 25-ft. length of hose, complete. Each $140.00.

Imperial Oxygen-hydrogen Equipment—Torches and regulators for oxygen hydrogen cutting and welding work can also be supplied. Full data and prices on request.

Imperial Automatic Acetylene Generator.

The Imperial automatic acetylene generator is of the medium pressure, carbide to water type. It produces pure acetylene gas from carbide and water for welding, cutting and lead burning by the oxy acetylene process.

The Imperial acetylene generator possesses many marked advantages over other makes. The most important of these being the absence of weights, clockwork and complicated mechanism. In the Imperial generator, the carbide feed is simple, pure and dependable, and is automatically controlled by the gas consumed by the torch; the generating of the gas automatically stops when the torch is extinguished and automatically starts generating when the torch is relighted, thus maintaining a constant, even gas pressure.

Interlocking safety levers make the Imperial generator absolutely foolproof, and compel the users to follow the proper sequence of the operations necessary to start or shut off the generator. A dependable safety blowoff makes it impossible to obtain more than 15 lbs. pressure.

The gas purifier has a water seal which cools the gas and absolutely prevents a back flash reaching the generator.

Price List—15-LB GENERATOR—15 lbs. carbide capacity, 15 gals. water capacity, produces 15 cu. ft. of gas per hour or 75 cu. ft. per charge, complete with truck, $175.00. Deduct $20.00 if truck is not wanted.

25-LB GENERATOR—25 lbs. carbide capacity, 25 gals. water capacity, produces 25 cu. ft. of gas per hour or 125 cu. ft. per charge, complete with truck, $200.00. Deduct $20.00 if truck is not wanted.

50 LB GENERATOR—50 lbs. carbide capacity, 50 gals. water capacity, produces 50 cu. ft. of gas per hour or 250 cu. ft. per charge, complete without truck, $275.00.

100-LB. GENERATOR—100 lbs. carbide capacity, 100 gals. water capacity, produces 100 cu. ft. of gas per hour or 500 cu. ft. per charge, complete without truck, $425.00.

200 and 300-LB GENERATORS, prices on application.

"Industrial" Cranes

In capacities of 5 to 160 tons built for operation by steam, electricity or gasoline motor

Wrecking or Construction Cranes for the heaviest wreck or bridge work. **Locomotive Cranes**—with hook for handling lumber, structural steel or for general lifting—with magnet for scrap and pig iron, rails, castings, etc.—with bucket for excavating, grading, handling coal, ashes, concrete or gravel—with pile driver or steam shovel attachments. **Pillar, Hand Power and Transfer Cranes; Pile Drivers; Rail Saws; Grab Buckets; Steam Hammers; Lifting Magnets.**

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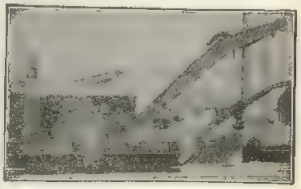

Pawling & Harnischfeger Co., 38th & National Ave., Milwaukee, Wis.. See Page 7
Shepard Electric Crane & Hoist Co., Montour Falls, N. Y. .See Advt. Index, Page 7
Smith Company, The T. L., 1165 32nd St., Milwaukee, Wis. See Advt Index, Page 7
Sprague Electric Works of General Electric Co., 527-531 W .34th St., New York .. .. ..

"LABRIDE" Coal and Yard Storage Gantry, Coal Handling Capacity 60 tons per hour. Stock Capacity 7½ tons. Built for A. O. Smith Corp., Milwaukee, Wis.

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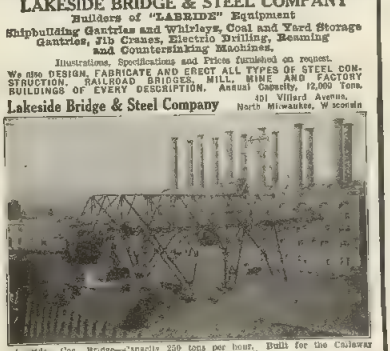
Builders of "LABRIDE" Equipment

Shipbuilding Gantries and Whirleys, Coal and Yard Storage Gantries, Jib Cranes, Electric Drilling, Reaming and Countersinking Machines.

Illustrations, Specifications and Prices furnished on request.

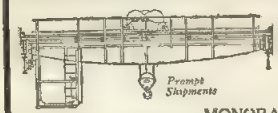
We also DESIGN, FABRICATE AND ERECT ALL TYPES OF STEEL CONSTRUCTION. RAILROAD BRIDGES, MILL, MINE AND FACTORY BUILDINGS OF EVERY DESCRIPTION. Annual Capacity, 12,000 Tons.

Lakeside Bridge & Steel Company — 401 Villard Avenue, North Milwaukee, Wisconsin



L. wide Coa. Bridge—Capacity 250 tons per hour. Built for the Calloway Fuel Company, Milwaukee, Wis

ERIE ELECTRIC TRAVELING Cranes



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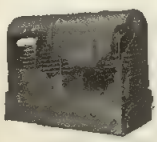
Prompt Shipments

MONORAIL SYSTEMS

STEAM ENGINES—Corliss, Slide Valve, Vertical

SIMPLE AND COMPOUND BELTED OR DIRECT CONNECTED.

BOILERS of All Types Including



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Water Tube Boilers

Internally fired and self-contained. Occupies smallest space per Horse Power of any boiler built. No brick setting. Straight tubes. Most efficient heating surface.

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Dewey Supply Corporation, 18 W. 34th St., New York. . . . . See Advt. Index, Page 7
Industrial Works, Bay City, Mich See Page 7
Lakeside Bridge & Steel Co., 401 Villard Ave., North Milwaukee, Wis. See Page 7
Link-Belt Co., Chicago and Philadelphia.
Niles-Bement-Pond Co., 111 Broadway, N. Y. . . . . See Advt. Index, Page 7
Northern Engineering Works, Detroit, Mich.
Reading Chain & Block Corp., Reading, Pa. . . . . See Advt. Index, Page 7
Toledo Crane Co., The, Bucyrus, O. See Page 7

Cranes, Riveting

Certes Supply Co., St. Louis, Mo.
Ryerson & Son, Jos. T., Chicago, New York, Buffalo, St. Louis, Detroit. . . See Page 7

Cranes, Shipyard

Brown Hoisting Machinery Co., The, Cleveland, O.
Carey, Geo. H., New York.
Champion Engineering Co., The, Kenton, O.
Dunkle Co., Arthur J., Chicago.
Equipment Corporation of America, Chicago.
Hanna Engineering Works, 176 Elston Ave., Chicago . See Advt. Index, Page 7
Lakeside Bridge & Steel Co., 401 Villard Ave., North Milwaukee, Wis See Page 7
Link-Belt Co., Chicago and Philadelphia See Advt. Index, Page 7
Northern Engineering Works, Detroit, Mich.
Reading Chain & Block Corp., Reading, Pa. See Advt. Index, Page 7
Thomas Elevator Co., Chicago
Toledo Crane Co., The, Bucyrus, O. See Page 7

Cranes, Soaking Pit

Morgan Engineering Co., Alliance, O.
Ryerson & Son, Jos. T., Chicago, New York, Buffalo, St. Louis, Detroit. . . . See Page 7

Cranes, Stacking

Northern Engineering Works, Detroit, Mich.

Cranes, Sugar Mill

Champion Engineering Co., The, Kenton, O.
Fulton Iron Works Co., St. Louis, Mo.
Woodward, Wight & Co., Ltd., New Orleans,

Cranes, Traction or Tractor

Buffalo Hoist & Derrick Co., 129 Erie St., Buffalo, N. Y. . See Advt. Index, Page 7
Hanna Engineering Works, 1760 Elston Ave., Chicago . See Advt. Index, Page 7
Northwest Engineering Works, Green Bay, Wis.
Terry Mfg. Co., Inc., Grand Central Terminal, New York.
United States Crane Co., Chicago.

Cranes, Transfer

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Byers Machine Co., The, 126 Sycamore St., Ravenna, O . . . See Advt. Index, Page 7
Granger Co., A. D., New York.
Hanna Engineering Works, Chicago.
Industrial Works, Bay City, Mich. See Page 7
Lakeside Bridge & Steel Co., North Milwaukee, Wis.
Link-Belt Co., Chicago and Philadelphia.
Mars Bros., Philadelphia, Pa.
Milwaukee Electric Crane & Mfg. Co., Inc., Milwaukee, Wis See Advt. Index, Page 7
Pawling & Harnischfeger Co., 38th and National Aves., Milwaukee, Wis See Page 7
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Manufacturers of BALANCED DRIVE HOISTS AND CRANES. Capacities of 500 lbs to 60,000 lbs.
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Northern Engineering Works, Detroit, Mich.
Whiting Corporation, Harvey, Ill. (Roundhouse.) . . . . . See Advt. Index, Page 7

Cranes, Traveling, Electric

Abell-Howe Company, 1406 S. Michigan Ave., Chicago See Advt. Index, Page 7
Alliance Machine Co., Alliance, O.
Box & Co., Alfred, Philadelphia, Pa.
Brown Hoisting Machinery Co., The, Cleveland, O.
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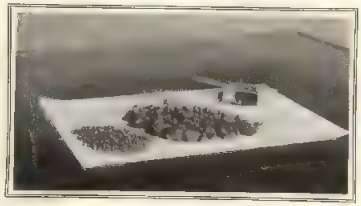
INDUSTRIAL DIAMONDS

FOR ALL MECHANICAL PURPOSES

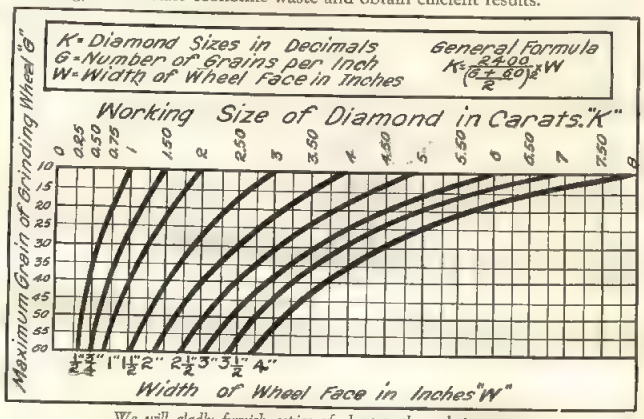
SEMI-PRECIOUS STONES - ROCK CRYSTAL - BRAZILIAN MICA

BRAZILIAN BORTZ



CARBON (Black Diamonds)

The chart below gives in carats the correct size diamond to use for different grains and widths of wheels, and will enable the abrasive engineer, when ordering, to eliminate economic waste and obtain efficient results.


K = Diamond Sizes in Decimals
G = Number of Grains per Inch
W = Width of Wheel Face in Inches
General Formula
K = 24.00 / (G + 60)² × W
Working Size of Diamond in Carats "K"
0 0.25 0.50 0.75 1 1.50 2 2.50 3 3.50 4 4.50 5 5.50 6 6.50 7 7.50 8
Maximum Grain of Grinding Wheel "G"
10 15 20 25 30 35 40 45 50 55 60
1/4" 3/4" 1" 1 1/2" 2" 2 1/2" 3" 3 1/2" 4"
Width of Wheel Face in Inches "W"

We will gladly furnish copies of chart to those desiring same.

Emery Wheel Dressers and Special Diamond Tools

Repeated dressings keep wheels in prime condition and insure successful production of smooth highly finished surfaces Do not permit wheels to become dull or worn until glazed. Orders for special tools should always be accompanied by blue prints so as to avoid mistakes and insure speedy delivery

Experience — Service

Thirty-two years' experience in marketing diamonds is a guarantee of knowledge of what the trade desires. Progressively increasing sales are proof of service appreciated.

THE DIAMOND DRILL CARBON COMPANY, 65 PARK ROW, NEW YORK CITY

Iver Johnson Automatic and Hammerless Revolvers

PRICES QUOTED BELOW INCLUDE WAR TAX

Iver Johnson Automatic, Self-Ejecting, Safety Hammer Revolver is especially well known for its quick firing capacity and fitted with a special patent safety invisible trigger makes it absolutely safe. Made up of very best forged steel and finished in best mechanical style, with fancy design rubber stock handle. Numbers listed below can be had either in nickel or blued finish. In ordering kindly specify finish desired.

No. 3C13. 32 caliber, 5 shot, 3 inch barrel.....9.65
No. 3C16. 38 caliber, 5 shot, 3¼ inch barrel....9.65

Iver Johnson Hammerless, Automatic, Self-Ejecting Revolvers, safest fire arm made on account of a patent safety trigger which makes it impossible of discharging by accident. Most popular revolver for pocket use. Because the hammer is concealed it cannot catch in pocket, can only be fired by pulling of the trigger. Made of best forged steel. Numbers listed below can be had either in nickel or blued finish. In ordering kindly specify finish desired.

No. 3C18. 32 caliber, 5 shot, 2 inch barrel....10.30
No. 3C22. 38 caliber, 5 shot, 3¼ inch barrel....10.30

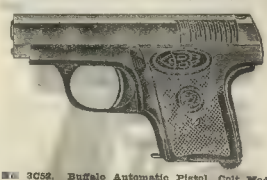
No. 3C31. Smith & Wesson style, 32 caliber Revolver. An exact reproduction of the higher priced revolver, in blued finish scored hard rubber, target grip handle, double action, swing out cylinders, fire arm of extraordinary value. Each..... 15.00

Smith & Wesson

Smith & Wesson "Regulation Police" Model is the standard government Police military arm of the world. Blued finish, double action, solid frame, swing out cylinder. Walnut checked stock. Shoots Smith & Wesson long, and Colt's New Police cartridges. A fire-arm that needs no description as it is well known all over the world.

No. 3C58. 32 caliber, 6 shot, 4¼ inch barrel, weight 18 ounces. Each..... 26.00

No. 3C59. 38 caliber, 5 shot, 4 inch barrel, weight 17¾ ounces. Each..... 26.00



No. 3C52. Buffalo Automatic Pistol, Colt Model. 25 caliber, magazine capacity 6 shot, blued finish; very powerful and accurated automatic pistol, with a triple safety device. This pistol is equal to even the highest priced pistol on the market, has all the features of same, and we recommend it in every respect. Use Standard 25 Automatic rimless ammunition. Each..... 12.00

No. 3C55. Buffalo Automatic Pistol, Colt Model. 32 caliber, magazine capacity 7 shot, blued finish, has triple safety device. Is a powerful as well as accurate fire arm, and equal to the highest priced automatic pistol on the market. Use Standard 32 Automatic rimless ammunition. Each..... 13.75

SAVAGE AUTOMATIC PISTOL

No. 3C28. Savage Automatic Pistol, model 1917, 32 caliber, magazine capacity 10 shots. Very simple, yet powerful fire arm. Can be completely dismounted and assembled without tools. Each..... 20.75
No. 3C29. As Above, 380 caliber. Each..... 22.00

IVER JOHNSON REVOLVERS

Safety Hammer Automatic

Fig. 40122A

Safety Hammerless Automatic

Fig. 40122B

There are several features about the Iver Johnson Revolver to be especially emphasized, the safety devices, the hairpin springs made of finest piano wire drawn to temper, replacing the old style flat springs. These coil springs are practically unbreakable. In addition they make for more uniform action, greater mechanical accuracy, and are more easily adjusted. The cylinder swings to the right to load different from the usual manner. There are no levers or buttons to remember or forget. The hammer can be pulled back only all the way for each shot and without danger.

SAFETY HAMMER AUTOMATIC REVOLVERS

This is the regular Iver Johnson Safety Hammer Model Revolver. It is the standard for home protection and can be conveniently carried in the pocket.

No.	Caliber	Size of Chamber Shots	Length of Barrel Inches	Finish	Price Each
108	32	5	3	Nickel	15.00
109	32	5	3	Blue	15.50
124	38	5	3¼	Nickel	15.00
125	38	5	3¼	Blue	15.50

SAFETY HAMMERLESS AUTOMATIC REVOLVERS

This is the regular Iver Johnson Safety Hammerless Revolver. Has concealed hammer.

No.	Caliber	Size of Chamber Shots	Length of Barrel Inches	Finish	Price Each
400	22	7	3	Nickel	16.00
408	32	5	3	"	16.00
409	32	5	2	Blue	16.50
424	38	5	3¼	Nickel	16.00
425	38	5	2	Blue	16.50

U. S. AUTOMATIC REVOLVERS

Double Action Model

Fig. 40122C

The U. S. line meets the demand for a low priced revolver. The automatic hammerless revolver has the hinged frame. The double action model has the solid frame. Both models have double action firing mechanism.

The barrel is drop forged, and accurately drilled and rifled. Working parts are drop forged and scientifically tempered to withstand all strains and shocks.

Model	Caliber	Length of Barrel Inches	Finish	Price Each
U. S. Double Action	22	2½	Nickel	6.00
" " "	32	2½	"	6.00
" " Automatic Hammerless	32	3	"	12.00

Handle on Low Requirements for Goods Not Listed.

Miller Waste Mfg. Co., Inc.

Manufacturers of

Cotton Wiping Waste and Wool Journal Packing

For All Purposes

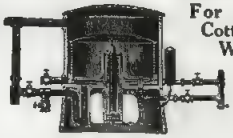
Quality, Service and Lowest Prices Guaranteed

A Trial Will Convince You

MAIN OFFICES

N. E. Cor. Snyder Avenue and Swanson Street, Philadelphia, Pa.

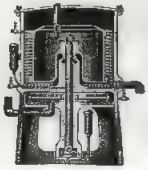
IMPROVED OIL & WASTE SAVING MACHINE



For Reclaiming Cotton Wiping Waste and Oils

From 50% to 90% Savings Produced.

Wool Waste Packing Reclaiming Machine



This machine reclaims for re-usage, over and over, all used Wool Waste Journal Packing and Journal Oil.

Its cost cutting qualities are wonderful.

The Oil & Waste Saving Machine Co.

1509 Real Estate Trust Bldg.
PHILADELPHIA, PA.

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MANUFACTURERS AND DISTRIBUTORS OF

Labeled and Approved Extinguishers, One Quart to Three Gallons.

Chemical Fire Engines, Twenty to Seventy Gallons.

Underwriters and Mill Fire Hose.

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Chemical Recharges.

Castle Liberty is NEW. It is a Three-Gallon, Hand Pump Carbon Tetrachloride Type Extinguisher. Write for information about the Extinguisher that on Test Showed Fire Fighting Efficiency Superior to 28 One-Quart Extinguishers at the Cost of 5 One-Quart Extinguishers.

Write for Prices and Gratis Sample of Castle Liquid for Refilling One-Quart Fire Extinguishers.

Sales representatives desired in unoccupied territory

Washed and Sterilized Wiping Rags

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Cotton and Wool Waste

ALL GRADES

Cheese Cloth

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Main Office—341 W. Superior St., CHICAGO, ILL.

THE MOST MODERN AND COMPLETE PLANT OF ITS KIND

For Nearly a Century the Store of Service.

JEWELERS' SCALES

ROBERVAHL SCALES

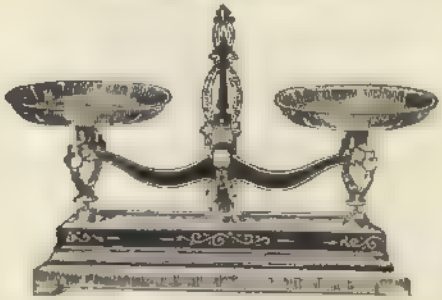


Fig. 41253A

Fitted with two heavy brass pans and brass indicator. Without weights.

No.	Size Pan Inches	Capacity Pounds	Price Each
2R	9	5	11.75
3R	8	2	9.75
4R	5½	1	8.50

HAND BALANCE SCALES

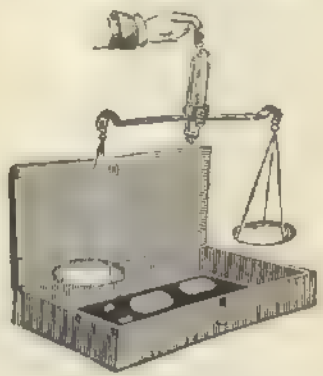


Fig. 41253B

Complete set of weights furnished for each capacity

Capacity Ounces	Price Each	Capacity Ounces	Price Each
1	1 75		2 50
2	2 00	6	2.75
3	2 25		

JEWELERS' PLATFORM SCALES

Fig. 41253C

Furnished with complete set of weights for each capacity.

Capacity Ounces	Price Each	Capacity Ounces	Price Each
4	10.00	16	20 00
6	11 00	32	23.00
8	16.00	64	25.00

PENNYWEIGHTS

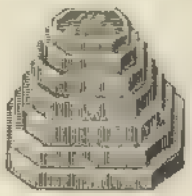


Fig. 41253D

Price . . . . . per set 1.50

GRAIN WEIGHTS

Fig. 41253E

Price . . . . . per set .50

TEXTILE SUPPLIES

No. 975 YARN REELS

Fig. 29716A

This yarn reel is furnished with 4 or 7 spindles and in two sizes, 36 and 54 inches in circumference.

Especially adapted to the accurate reeling of the fine yarns. Used in connection with roving scales and yarn testers when obtaining the stretch, strength and number of cotton, woolen and worsted yarns.

The number of yards reeled is indicated on the dial. The bright spot on the web of the worm wheel shows when the zero of the dial approaches the index point and assists the operator to stop promptly on the striking of the bell. The yarn guides and spindles are kept in line with each other while feeding yarn upon the reel, which is very desirable when reeling fine yarns. The friction upon the yarn is increased by taking a half turn or more of yarn around the yarn guides which are made extra long for this purpose. The automatic feed motion lays the yarn flat upon the reel, thus securing accurate and uniform measurement and consequently correct results as to stretch, strength and numbering.

Price.....each 52.00

No. 977 ROVING REELS

Fig. 29716B

For reeling small quantities of roving, drawing and yarn, and also to determine the number of twist in the yarn. The circumference of large drum, 18 inches.

To reel roving or yarn, place the crank handle down and move the short end of the index hand, marked yards, to the zero point of the inside circle on the dial. Place the end of the roving or yarn between the rolls and turn the crank as many times as may be desired, always starting and stopping with the crank handle down. The index hand will indicate on the inside circle of the dial the number of yards and half-yards reeled. The material should not be wound around either of the rolls but merely passed between them.

Price each 30.00

No. 980 IMPROVED ROVING OR YARN SCALES

Fig. 29716C

This scale weighs one pound by tenths of grains, or one seventy-thousandth part of one pound avoirdupois, rendering it especially well adapted for use in connection with yarn reels, for the number of yarn from the weight of hank, giving the weight in tenths of grains to compare with tables. It is also useful for the weighing of any small articles, colors, drugs, etc., for computation of large quantities, or for postal scale. The finished parts are nickel-plated and the stand japanned and ornamented. The spirit level in the center of the base permits the scales to be set true on a bench or table. Ten balancing weights accompany each scale as follows: One each of 20, 30, 50, 100, 200, 300, 500, 1000, 2000 and 3000 grains; the 20 grains on the beam being each divided into 10 parts.

One pound avoirdupois 7000 grains, 1 pound avoirdupois 3500 grains, ½ pound avoirdupois 1750 grains, ¼ pound avoirdupois 875 grains, 1 ounce avoirdupois 437.5 grains.

Price.....each 19.00

Write us Your Requirements for Goods Not Listed.

KEEN KUTTER* AXES.

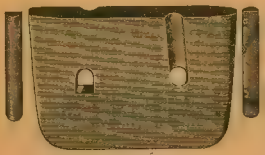
SINGLE BIT CARTON.

DOUBLE BIT CARTON.

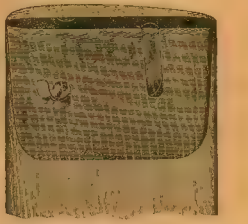
All KEEN KUTTER Full Polished, Men's Axes, Handled or Unhandled, are Packed in INDIVIDUAL CARTONS, made of Heavy Paper. All other KEEN KUTTER Men's Axes are put up in Wrappers.

The Weight of the Axe is Printed on the Outside of Carton or Wrapper, therefore enabling the Dealer to Readily take out of Case Axe of Desired Weight.

These methods of Packing enable the Dealer to present to his customer a perfect Axe, Free from Finger Marks and Rust Spots.



ACTUAL SIZE.
E. C. SIMMONS DOUBLE LOCKING AXE WEDGE.



SECTIONAL VIEW SHOWING APPLICATION OF THE E. C. SIMMONS PATENT DOUBLE LOCKING WEDGE.

In all of our KEEN KUTTER, E. C. SIMMONS MESQUITE, OAK LEAF and BAY STATE HANDLED AXES we will use the E. C. SIMMONS PATENT SPECIAL LOCKING AXE WEDGE, which will positively prevent the Head from Flying off the Handle.

The Heavy Malleable Wedge has Grooved Sides, so formed that when the Strong Steel Pins are driven in the Wedge the Sharpened End of the Pins are Curled and Forced into the Wood on Both Sides by Striking the End of the Groove and Entering the Hole, forming a Hook, thus making a Positive Double Lock

Showing our Secure Method of Crating and Wrapping all our KEEN KUTTER Men's Handled Axes. The Heads are Carefully Boxed, the Handles are Wrapped with Paper and covered with Muslin Bag.

Over Thirty Years' Experience in Handling Axes. IT IS NO EXPERIMENT WITH US.

Our Axe Handling Department is under Our Own Supervision, and we employ Workmen who know by many years' experience the Correct Shaping and Set of the Handle.

Every Axe is Handled by a Fixed Gauge to Insure its being Perfect in this respect.

For over Half a Century the KEEN KUTTER Axe has stood the test and has always proved satisfactory when put into use, until now in all Lands, wherever Axes are used, it is recognized as the standard of the best that money and brains can produce.

Perfectly balanced and properly handled by men who know how to handle an Axe, it falls true to the woodchopper's stroke—no unsightly creases in the cut. Unless you appreciate what is good and expect to take just pride in a fine tool, pass it by, for the KEEN KUTTER Axe is built for the man who knows what is good and who always wants the best.

KEEN KUTTER

Goods have Carved their Way through all Competition and Lead the World.

TOOLS and FARMING IMPLEMENTS

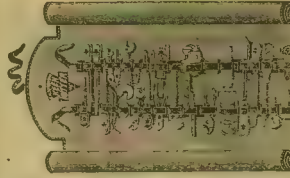
"The Recollection of QUALITY Remains Long After the PRICE is Forgotten."

Trade Mark Reg. U. S. Pat. Office. —E. C. SIMMONS

E. C. SIMMONS KEEN KUTTER

AUTOMOBILE TOOL KITS.

KEEN KUTTER.



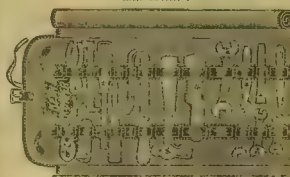
Each

No. K10—*KEEN KUTTER*; Heavy Tan Color Canvas Roll, Leather Bound and Strapped; Complete with 33 High Grade Tools and 6 other Miscellaneous Articles Listed Below $31.00

1 KEEN KUTTER Pipe Wrench No. K10
1 KEEN KUTTER Machine Wrench No. KT9
1 KEEN KUTTER Machine Wrench No. KT4
1 KEEN KUTTER Machine Wrench No. KT7
1 KEEN KUTTER Bicycle Wrench No. K94
1 KEEN KUTTER Automobile Wrench No. K96
1 KEEN KUTTER Plier No. K360, 6 in.
1 KEEN KUTTER Plier No. K360, 8 in.
1 KEEN KUTTER Black Jack Auto Hammer No. KA2/0.
1 KEEN KUTTER Machinists' Screw Driver No. K68.
1 KEEN KUTTER Screw Driver No. K56, 3 in.
1 KEEN KUTTER Screw Driver No. K5, 6 in.
1 KEEN KUTTER Mill File No. KM8.
1 KEEN KUTTER Round File, 6 in., Handled.
1 KEEN KUTTER Square File, 6 in., Handled.
1 KEEN KUTTER Slim Taper File, 5½ in., Handled.
1 KEEN KUTTER Cold Chisel, ⅜ in.
1 KEEN KUTTER Cape Chisel, ⅜ in.
1 KEEN KUTTER Machine Punch No. K14.
1 KEEN KUTTER Center Punch No. K16.
1 KEEN KUTTER Center Punch No. K12.
1 KEEN KUTTER Three-cornered Scraper No. K7.
1 KEEN KUTTER Cotter Pin Lifter No. K6
1 [illegible] Case with Idem Fastener Containing Cotter Pins
1 Piece of Copper Wire No. 18
1 [illegible] Soldering Copper, Handled.
1 Stick Soldering Compound
1 Roll Pipe Tape No. 0

Length Open, 40 in.; When Rolled Up 14½ in. Long and 12 in. in Circumference.
Packed Loose; Weight Each about 12 lbs

KEEN KUTTER.



Each

No. K45—*KEEN KUTTER*; Heavy Tan Color Canvas Roll, Leather Bound and Strapped; Complete with 17 High Grade Tools as Listed Below $20.00

1 KEEN KUTTER Plier No. K150, 6 in. Slip Joint
1 KEEN KUTTER Plier No. K150, 8 in. Slip Joint
1 KEEN KUTTER Adjustable Bicycle Wrench No. K95
1 KEEN KUTTER Screw Driver No. K70/5.
1 KEEN KUTTER Screw Driver No. K80/7.
1 KEEN KUTTER Off-set Screw Driver No. K7/OS.
1 KEEN KUTTER Cotter Pin Lifter No. K6.
1 KEEN KUTTER File No. KHR6
1 KEEN KUTTER Ball Pein Hammer No. KA2/0
1 KEEN KUTTER Adjustable Wrench No. KB8
1 KEEN KUTTER Wrenches, 1 Each Nos. K23, K27 and K[illegible]
1 KEEN KUTTER Cape Chisel No. KC/316, ⅜ in.
1 KEEN KUTTER Cold Chisel No. KCE, ⅜ in.
1 KEEN KUTTER Machine Punch No. K[illegible]
Length Open [illegible] 1 Wrench Rolled Up 13 in. Long [illegible] in. in Circumference.
Packed Loose; Weight Each about [illegible] lbs.

AUTOMOBILE TOOL KITS.

OAK LEAF.

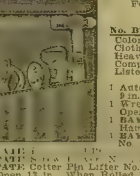
Each

No. E20—*OAK LEAF*; Heavy Tan Color Canvas Roll, Leather Bound and Strapped Complete with 14 Tools Listed Below $15.00

1 OAK LEAF Pipe Wrench No. EP10.
1 OAK LEAF Wrenches; One Each Nos. E501, E502 and E503.
1 OAK LEAF Automobile Wrench No. 99
1 OAK LEAF Ball Pein Hammer No. EM3/0
1 OAK LEAF Screw Driver No. E67
1 OAK LEAF Cold Chisel No. E38.
1 OAK LEAF Solid Machine Punch No. E13
1 OAK LEAF Combination Plier No. E160
1 OAK LEAF Mill Bastard File No. E46.
1 OAK LEAF Slim Taper File, 5 in., Handled.
1 OAK LEAF Cotter Pin Lifter No. E6.
1 OAK LEAF Square Blade Scraper No. E7.

Length Open, 28½ in.; When Rolled Up, 12 in. Long and 13½ in. in Circumference.
Packed Loose; Weight Each about 7 lbs.

BAY STATE.



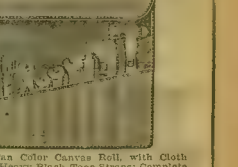
ESPECIALLY ADAPTED FOR FORD AUTOMOBILES

Each

No. B16—Medium Tan Color Canvas Roll, with Cloth Round Edges and Heavy Black Tape Straps; Complete with 7 Tools Listed Below $4.30

1 Auto Adjustable Wrench, 9 in.
1 Wrench, ⅜ and ½ in. Openings
1 BAY STATE Ball Pein Hammer, No. BM2/0.
1 BAY STATE Cold Chisel No. B38.
1 BAY STATE [illegible]
1 BAY STATE Screw [illegible]
1 BAY STATE Cotter Pin Lifter No. B6.

Length Open 13 in. When Rolled Up, 12 in. Long and 10 in. in Circumference.
Packed Loose; Weight Each about 3½ lbs.



No. B20—Medium Tan Color Canvas Roll, with Cloth Round Edges and Heavy Black Tape Straps; Complete with 12 Tools Listed Below ..... Each, $3.50

1 Auto Adjustable Wrench, 9 in.
2 Wrenches, Double End, S. A. E. Cap Screw; One Each ⅜ and 7/16, ½ and 9/16, ⅝ and ¾ in. Openings.
1 BAY STATE Ball Pein Hammer, No. BM2/0.
1 BAY STATE Cold Chisel No. B3[illegible]
1 Solid Machine Punch No. B[illegible]
1 BAY STATE [illegible] No. B[illegible]
1 BAY STATE [illegible] No. B[illegible]3.
1 Offset Screw [illegible]
1 BAY STATE Mill File No. BM8.
1 BAY STATE Cotter Pin Lifter No. B6.

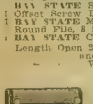
Length Open 26 in.; When Rolled Up, 12 in Long and 11 in. in Circumference.
Packed Loose. Weight Each about 4½ lbs

AUTOMOBILE TOOL KITS.

BAY STATE*.

No. B30—Medium Tan Color Canvas Roll, with Cloth Bound Edges and Heavy Black Tape Straps; Complete with 16 Tools Listed Below.....Each, $7.30

1 Auto Adjustable Wrench, 9 in.
1 Wrenches, Double End, S. A. E. Cap Screw, One Each ¼ and ⅜, ⅜ and 7/16, ½ and ⅝ in. Openings.
1 BAY STATE Wrench No. BH.
1 Spark Plug Wrench No. C.
1 BAY STATE Ball Pein Hammer No. BM2/0.
1 BAY STATE Cold Chisel No. BS3.
Solid Machine Punch, No. BS6.
1 BAY STATE Plier No. BS6.
1 BAY STATE Screw Driver, No. B101/3
1 BAY STATE Screw Driver, No. B361/5.
1 Offset Screw Driver, 4½ in.
1 BAY STATE Mill File No. BM8.
Round File, 8 in.
1 BAY STATE Cotter Pin Lifter No. B6
Length Open 28⅛ in.; When Rolled Up, 12 in. Long and 12 in. in Circumference
Weight Each about 5 lbs.
Packed Loose.



HANDY.

A Very Handsome Kit to be placed in Pocket of Car where it can be easily obtained without Inconveniencing occupants of Car

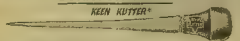
Medium Tan Color Canvas Bag, with Snaps; Contains: 1 No. K70, 8 in. Screw Driver; 1 No. CA3, 8 in. Adjustable Wrench, and 1 No. K160, 6 in. Combination Plier.

Each
No. 3—CONTAINS 3 TOOLS.....$4.00

Packed Loose.
Weight Each about 1¾ lbs.

SCRATCH AWLS.

KEEN KUTTER*



Highest Grade Tool Steel Tempered and Polished Blade and Socket; Hardwood Finish Rosewood Handle; Length of Blade and Socket 5⅝ in.; Diameter ⅛ in. Length over all 9 in.

No. K100—KEEN KUTTER* SOCKET: Weight per dozen about 1½ lbs.....Per Dozen, $7.20

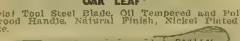
Highest Grade Tool Steel Blade, Oil Tempered, Blued Finish; Hardwood Handle, Rosewood Finish Nickel Plated Steel Ferrule.

No. K113—KEEN KUTTER*: Length of Blade 5 in.; Diameter ⅛ in. Length over all, 8⅝ in.; Weight per dozen about 2¼ lbs.....Per Dozen, $4.10

One Dozen in a Wood Box

OAK LEAF*

Special Tool Steel Blade, Oil Tempered and Polished. Hardwood Handle, Natural Finish, Nickel Plated Steel Ferrule.



No. E111—OAK LEAF*: Length of Blade 4½ in.; Diameter ⅛ in. Length over all 7½ in.; Weight per about 2 lbs.....Per Dozen, $3.10

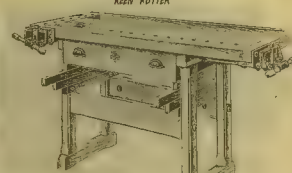
BAY STATE

Tempered and Polished Tool Steel Blade. Plain Hardwood Handle. Brass Ferrule. Length of Blade 3¼ in.; Diameter of Shank at Ferrule ⅛ in. Length over all 7½ in. Per Dozen
No. H10—BAY STATE*: Weight per doz about 1 lb $2.10

One Dozen in a Cardboard Box

WORK BENCHES.

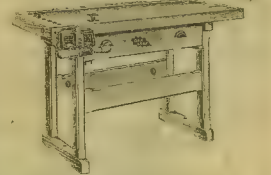
KEEN KUTTER*



Tops, Legs and Braces made of Kiln Dried Hard Maple; Bottom and Sides of Drawer made of Pine. Front of Drawer Hardwood; 54 in. Long, 22 in. High, 22 in. Wide, 14 in. Glued-up Top, 2¼ in. Thick; Highly Polished and Oiled; 7 in. Well for Tools with Closed Ends; Fitted with Abernathy Roller Nut Rapid Acting Front and Tail Vises; Vises equipped with Steel Dog; Drawer 38 in. Long, 17½ in. Wide, 6 in. Deep, with Brass Pulls; Has Special Sliding Trestle.

Each
No. K13B—KEEN KUTTER*, Weight each about 150 lbs..$97.00

OAK LEAF*

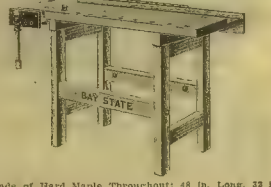


Made of Best Quality Hard Maple Kiln Dried, 53 in. Long, 32 in. High, 22 in. Wide, 1¾ in. Glued-up Top, 2½ in. Thick, Highly Polished and Oiled; 7½ in. Well for Tools, with Closed Ends and a Tool Rack on Back of Bench; Fitted with Abernathy Roller Nut Rapid Acting Front Vise, equipped with Steel Dog; One Drawer 32 in. Long, 13½ in. Wide, Iron Bench with Brass Pulls.

Each
No. E22—OAK LEAF*: Weight each about 125 lbs...$73.50

One in a Crate.

BAY STATE*.



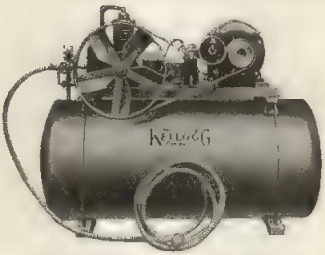
Made of Hard Maple Throughout; 48 in. Long, 32 in. High, 22 in. Wide; 13½ in. Glued-up Top, 1⅝ in. Thick, Polished and Oiled; 1¾ in. Well for Tools and a Tool Rack on Back of Bench; Iron Wood Faced Front Vise with 10 in. Jaws; 1¼ in. Iron Bench Screw.

Each
No. B21—BAY STATE*: Weight each about 200 lbs.$32.80

One in a Crate.

Kellogg Air Compressors
Economical and Efficient

No Oil Spray in the Air Guaranteed



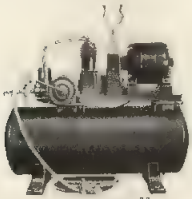
Automatically Controlled — Requires Little Attention

Model EM-52 Heavy Duty

A Compact Unit—Requires No Extras. Unequalled for the Large Garage
Costs Only Six Cents Per Hour to Operate

Double cylinder disc valve type pump. Pumps 5½ cubic feet air per minute. One H. P. Electric Motor, A. C. or D. C. Tank 16" x 40" Tested to 400 lb. pressure. Belt-driven, spring-controlled idler pulley

Twenty-five feet wire-wound hose fitted with Schroeder Valve. Fittings of brass and copper. Full Automatic Control. Constant level oil feed system. Costs six cents per hour to operate.



Model EM-241 Portable and Stationary

A Very Compact Equipment—Motor and Compressor in One Unit
Medium Size—Sufficient Capacity for Average Garage
Costs Only Three Cents Per Hour to Operate

Single cylinder poppet valve type pump. Pumps 2½ cubic feet air per minute. One-half H. P. Electric Motor, A. C. or D. C. Tank 12" x 33" Tested to 400 lb. pressure.

Twenty-five ft. wire-wound hose fitted with Schroeder Valve. Portable model hose—15' hose and 12' Electric cord. Gear driven—gears run in oil. Full Automatic Control.

Write for Our Catalogue, Prices and Discounts

Kellogg Manufacturing Co. Rochester, N. Y., U. S. A.

KELLOGG TIRE PUMPS

ROLLER SKATE EXTRAS.

SKATE ROLLS.

Per 100

No. 17—Cast Iron, Plain Bearing; For Nos. 335 and R115 Old Style Skates; Weight per 100 about 16 lbs...$ 6.00

No. 4—Steel, Ball Bearing; For Nos. E100, E200, 4/S, 5/S and 6/S; Weight per 100 about 18 lbs..... 18.50

No. 516—Self Contained Ball Bearing; For Nos. 44, 55 and 66; Weight per 100 about 18 lbs..... 33.00

No. 5—Self Contained Ball Bearing Steel; Will Fit Any Make of Plain or Ball Bearing Roller Skate. 40.00

No. 6—Web Steel, Ball Bearing; For Nos. 17 and 19; Weight per 100 about 25 lbs..... 60.50

No. 7—Aluminum, Ball Bearing, For Nos. 17 and 19. Weight per 100 about 18 lbs..... 184.00

No. 12—Homogeneous Steel, Plain Bearing; For Nos. 27½, 335 and R115. Weight per 100 about 23 lbs.. 10.50

No. 15—Fibre, Ball Bearing, For Nos. 17 and 19; Weight per 100 about 21 lbs..... 132.00

No. 181—Bolts; For Adjusting the Length of the Foot Plate for Skates Nos. 2½, 4/S, 5/S, 5/S, 27½, E100, E200, 286, 44, 55, 66, 29½/SC, 37/SC, 37½/SC and R115 ..... 3.30

No. 182—Nut; For No. 181 Bolts..... $3.30

No. 45—Rubber Cushions; For Ball Bearing Skates Nos. 17, 17F, 18, 19F, 27, 29, 29½/SC, 37/SC and 37½/SC 10.00

No. 20—Axles; For Plain Bearing Skates Nos. 27½, 335 and R115 ..... $6.60

No. 21—Axles; With Threads and Rivets for Fastening Axles to Roller Carrier on Ball Bearing Skates Nos. 17 and 19..... 20.00

No. 8U—Axles; For Skates Nos. 4/S, 5/S, 6/S, E100 and E200 ..... 22.50

No. 110—Axles; For Nos. 44, 55 and 66..... 11.50

No. 23—Nuts; (Hardened) for No. 21 Axle..... 3.30

No. 9U—Axle Nuts; For Nos. 4/S, 5/S, 6/S, 44, 55, 66, E100 and E200..... 3.30

No. 25—Lock Washers for No. 21 Axle..... .46

No. 37—Toe Clamps, with Right Thread; For Ball Bearing Skates Nos. 17 and 19..... 10.00

No. 39—Toe Clamps, with Left Thread; for Ball Bearing Skates Nos. 17 and 19..... 10.00

No. 173—Toe Clamp, with Right Thread. For Adjustable Skates Nos. 27½, 29½/SC, 37/SC and 37½/SC 7.70

No. 175—Toe Clamp, with Left Thread; For Adjustable Skates Nos. 27½, 29½/SC, 37/SC and 37½/SC 7.70

When ordering Extra Clamps, specify for what size Skate they are wanted.

Per 100

No. 41—Screws; Hardened, with Right and Left Thread; For Nos. 37, 39, 173 and 175 Toe Clamps.....$16.50

No. 52—Inside and Outside Dust Caps; For Winslow Ball Bearing Skates, All Numbers..... 4.50

No. 11U—Dust Caps; For Nos. 4/S, 5/S, 6/S, E100 and E200 ..... 2.30

No. 53—Inside Cones; Hardened, without Thread; For Ball Bearing Skates Nos. 17 and 19..... 7.50

No. 55—Outside Cones; Hardened, with Thread; For Ball Bearing Skates Nos. 17 and 19..... 7.70

No. 5U—Axle Cones; For Nos. 4/S, 5/S, 6/S, E100 and E200. ..... 3.80

No. 356—Ball Cases, Hardened, with Retaining Key; For Ball Bearing Skates Nos. 17 and 19..... 7.30

Per 1000

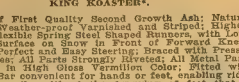
No. A—3/16 in. First Quality Steel Balls; for Ball Bearing Skates Nos 17, 17S, 17S, 6/S, E100 and E200....$4.00

COASTER SLEDS.

STEERING.

KING KOASTER®.

Made of First Quality Second Growth Ash; Natural Finish. Weather-proof Varnished and Striped; Highest Quality Flexible Spring Steel Shaped Runners, with Long Bearing Surface on Snow in Front of Forward Knees, insuring Perfect and Easy Steering; Braced with Pressed Steel Knees; All Parts Strongly Riveted; All Metal Parts Enameled in High Gloss Vermilion Color; Fitted with Steering Bar convenient for hands or feet, enabling rider to guide easily without the dragging of feet that is necessary with the Ordinary Sled.



SIDE RAILS ⅞×⅝ IN.

Per Dozen

No. 30—32x12 in. over all; 6 in. High; Weight per dozen about 84 lbs.....$30.00

No. 31—36x13½ in. over all; 6 in. High; Weight per dozen about 90 lbs..... 46.00

No. 40—40x13½ in. over all; 6½ in. High; Weight per dozen about 100 lbs..... 52.00

No. 42—45x13½ in. over all; 6½ in. High; Weight per dozen about 106 lbs.....Per Dozen, $62.50

No. 43—51x13½ in. over all; 6½ in. High; Weight per dozen about 120 lbs.....Per Dozen, $71.50

One-sixth Dozen in a Bundle.

BABY WALKERS.

GLASSCOCK'S BABY WALKER AND TENDER COMBINED; Cherry Finished; Hard Maple Rims, Seat and Tray; Lower Rim has Four Ball Bearing Casters, making the Walker Easy to Push; Adjustable Seat held in position by means of Three Russet Leather Straps, which Fasten to the Top Rim. By the use of this "Walker", the Baby not only learns how to walk, but is given an opportunity to become strong and healthy through exercise, without danger of getting injured. Top Rim 12 in. in Diameter; Bottom Rim 26 in. in Diameter; Tray 7½ in. in Diameter.

Per Dozen

No. 2—Weight per dozen about 70 lbs.....$63.50

One-twelfth Dozen in a Cardboard Box.

KIDDIE KARS.

Absolutely Safe, almost Indestructible and Handsomely Finished in Light Orange Color, with Red Wheels; Satisfies the Younger Boys and Girls desire for action and fun, develops their strength by Harmless and Joyous exercise.

Sturdily constructed with Crowned Hard Maple Wheels, Basswood Top, balance of parts Birch Wood; Front Wheel revolves on short Steel Axle; Rear Wheels attached to Frame with Large Screws, which forms the Axles; Handsome Varnish Finish Throughout.

Nos.	1	2	3	4
Height to Top of Seat, in.....	7	8½	10	11½
Height to Top of Cross Handle, in.	14	16½	18	21
Length, in.	16	17	18	20
Width of Seat, in.	6	6½	7	8
Diameter of Wheels, in.....	4½	4¾	5¼	6
Wgt. per dozen about, lbs.....	48	62	89	119
Per dozen	$24.00	30.00	43.70	57.10

Nos. 1, 2 and 3 Two Dozen in a Crate; No. 4, One Dozen in a Crate.

HORNS.

KLAXON—6 DECK.

BOAT TYPE, SWIVEL BASE.

Special Swivel Bracket permits Horn to be pointed in any direction; Easily Removed for Storing.

Same High Grade Construction as all Klaxons.

Projector 5¼ in. Long; Bell 6¼x4 in.; Length over all 9 in.; Height over all 7¾ in.

Push Button and sufficient Insulated Wire furnished for Installing.

No. 16 —Black Enameled Finish; Weight each about 6½ lbs. Each $10.75 $16.20

One in a Dovetailed Wood Box.

AERMORE.

FOR FORD CARS AND CARS WITH 20 TO 30 H. P. ENGINES.

Brass Tubes with Solid Steel Core, Heavily Nickel Plated and Polished; Length over all 11¼ in.; Tubes 1 in. in Diameter, 4⅞, 6¼, 7¼ and 9⅛ in. Long; Malleable Iron 1¾ in. Tail End Valve, Nipple and Elbow; Japanned Malleable Iron Foot Pedal; Steel Pulley and 7½ ft. of Wire Cable.

Each

No. 3—COMPLETE; Weight each about 4¾ lbs.... $11.20

One in a Cardboard Box.

Operated by means of a Foot Pedal which closes the Valve attached to Rear of Muffler. Each Horn furnished with Complete Equipment and is Easily and Quickly Installed.

Built on the Pipe Organ Principle, each Tube gives a different Note—when sounded together gives a Clear Musical Tone, which is pleasing to the Ear, at the same time producing an Effective Warning.

ELECTRIC PUSH BUTTONS.

ROSCO.

For use in connection with Electric Automobile Horns.

Heavy Brass Case, Nickel Plated and Polished; Black Hard Rubber Push Button; Black Enameled Steel Base and Bracket with Two Brass Machine Screws for attaching on Steering Wheel.

Each

No. 25/1—Diameter 1¼ in.; Width of Bracket 2⅜ in.; Weight each about 3 ozs..... $0.64

Packed Loose.

For use in connection with Electric Automobile Horns.

Wrought Steel Cabs 1⅝x1¾x⅝ in.; Dead Black Finish; Hard Rubber Base with Connecting Screws and Contact; Hard Rubber Push Button 1⅛x⅝ in.; Constructed that contact will be made regardless of where button is pushed, whether at Center or around Entire Edge.

Each

No. 225—Weight each about 1 oz..... $0.48

One in a Cardboard Box.

CUT-OUT PEDALS.

MUFFLER.

Malleable Iron, Black Enamel Finish; Floor Plate 4⅜ in. Long, 1¾ in. Wide with Two Screw Holes; Helical Steel Spring; The Foot Plate has a Serrated Top to prevent the Foot from Slipping; Bottom Lever extends 2¾ in. below the Bottom of the Floor Plate and has a Sweep of 2 in. from Neutral Position when the Foot Lever is Clamped Down, and has a notch in Upright so it can be Locked and Held Down if desired.

Each

No. 23—Weight each about ½ lbs..... $0.32

Packed Loose.

** Goods marked thus † are not carried in stock and can only be furnished by shipment direct from factory.*

MUFFLER CUT-OUTS.

G-P.

Cast Iron Valve, in Two Parts, Bolted Together; Valve Tongue and Seat constructed so that when Cut-out is open the line to Muffler is completely shut off, giving correct angle for deflecting the Exhaust Gases freely without Back Pressure; The Course which Exhaust Gases must take tends to prevent Carbon Accumulation on Valve or Seat; The arc of the Gasoline in Cut-out being greater than any section of Exhaust Pipe Line gives complete relief to Motor and intensifies the volume of sound. Cut-out cannot open by pressure of Exhaust Gases when Closed.

Ends Bored to Exact Size of Exhaust Pipe, with Shoulders at each end, and are held rigid by Set Screws.

Cast Iron Lever with Heavy Coil Spring for holding Valve Tongue closed.

Sizes specified below are the Diameter of Bored Opening that clamps around Exhaust Pipe.

Nos.	74	48	78
Sizes Inches	1¾	2	2¼
Wgt. ea. abt., lbs.	6	7½	7½
Each	$6.75	7.50	7.50

One in a Wood Box, Complete with Set Screws.

MUFFLER CUT-OUT OUTFITS.

FOR FORD CARS.

Complete Outfit, Ready to Install; Consists of One 1¼ in. G-P Muffler Cut-out; Sufficient Coppered Steel Cable to extend from Cut-out to Pedal; Malleable Iron Black Japanned Locking Pedal with Oval Floor Plate 3⅜x1½ in., with Steel Spring and Knurled Keel Button.

Each

No. 108—FOR FORD CARS; Weight each about 7 lbs. $6.70

One in a Wood Box, with Instructions for Installing.

EDELMANN'S.

FOR FORD CARS.

Complete Outfit, Ready to Install; Consists of an Improved 1½ in. Malleable Iron Cut-out Valve with Steel Helical Spring to close Valve when Pressure on Pedal is released; Two Steel Traps for Clamping the Valve on Outside of Exhaust Pipe without Cutting Pipe in two, simply saw a ¼ in. Slot in Pipe; 2¼ ft. Galvanized Wire Cable, sufficient to extend from Cut-out Valve to Pedal; Malleable Iron Locking Pedal, Floor Plate 3⅜ in. Long, 2 in. Wide, with Serrated Top Button; Bottom Lever extends 5¼ in. below Floor Plate, has Notch in Upright so it can be held Open if desired; Valve, Straps and Pedal Black Enamel Finish.

Each

No. 312—Weight each, complete, about 2¾ lbs.... $2.10

One Complete Outfit in a Cardboard Box.

FOR FORD AUTOMOBILES.

Complete Outfit, Ready to Install; Consisting of a 1¼ in. Pressed Steel Cut-Out Valve made in Two Parts; Size of Cut-Out Outlet 1⅞ in.; Clamps on Outside of Exhaust Pipe without Cutting Pipe, in Two, simply Saw a ¼ in. in the Pipe; 3 ft. Bright Steel Chain, sufficient to extend from Cut-out Valve to Pedal; ⅜ in. Cast Iron Black Japanned Pulley; Stamped Steel Black Enameled Locking Pedal; Floor Plate 3½ in. Long, 1½ in. Wide, with Steel Spring; Bottom Lever extends 4¼ in. below Floor Plate, has Notch in Upright so it can be Locked and Held Open if desired; 4 in Helical Steel Spring to close Valve when Pressure on Pedal is Released.

Each

No. 18—Weight each, complete about 1¾ lbs.... $1.20

One Complete Outfit in a Cardboard Box

EXHAUST HORN SPRINGS.

Tempered Steel Expansion Coil Spring, with Loop for End Fastening; Length 4½ in.; Diameter ⅜ in.

No. 2—Black Enameled..... $0.70

Packed Loose, Weight per Dozen about 1 lb.

HORNS.

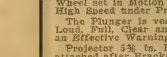
KLAXON.
HIGH-GRADE STEEL.

The Sound is produced by a Tough Vanadium Steel Diaphragm set in Rapid Vibration by a Hardened Toothed Wheel set in Motion by a train of Gears which attain a High Speed under Pressure on the Push Rod.

The Plunger is very Short; A slight Push produces a Loud, Full, Clear and Penetrating Tone, which affords an Effective Warning Signal.

Projector 5¾ in. Long; Oval Bell 5½x4 in.; Horn is attached after Bracket has been Mounted on Car.

BLACK ENAMELED FINISH.

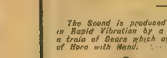


KLAXON—3H.

Each

No. 3H—HORIZONTAL FINISH. Length over all 10¾ in.; Height over all 5¾ in. $6.75 $8.70

The Sound is produced by a Tough Vanadium Steel Diaphragm, set in Rapid Vibration by a hardened Toothed Wheel; set in Motion by a train of Gears which attain a High Speed by the Crank on End of Horn with Hand.



KLAXON 10.

Same High Grade Construction as all Klaxons; Constructed for Use on Trucks; Most Reliable and powerful Hand-operated Signal on the Market.

Projector 7¾ in. Long; Bell 4¾ in. in Diameter, Length over all 13½ in., Height over all 8 in.

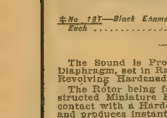
HAND OPERATED.

‡No. 10T—Black Enameled Finish; Weight Each about 8¾ lbs. Each $12.75 $19.20

The Sound is Produced by a Tough Vanadium Steel Diaphragm, set in Rapid Vibration by means of a Rapidly Revolving Hardened Wheel or Rotor.

The Rotor being fastened to the shaft of a finely constructed Miniature Railway Motor causes it to come in contact with a Hardened Button in Center of Diaphragm and produces instantly a Loud, Full, Clear and Penetrating Tone which affords an effective Warning Signal.

Push Button and sufficient Insulated Wire furnished for Installing.



KLAXON—20-L.

HIGH GRADE STEEL.

Projector 9½ in. Long; Bell 8x6½ in.; Length over all 13 in.; Height over all 10¾ in.

FOR 6 TO 8 VOLT CIRCUIT.

Each

No. L—Black Enameled Finish $25.00 $45.00

Weight Each about 20 lbs.

KLAXON —20 DECK.

FOR AUTOMOBILE RUNNING BOARDS,

BOAT TYPE, SWIVEL BASE.

Special Swivel Bracket permits Horn to be pointed in any direction; Easily Removed for Storing.

Metal Bell and Housing; Wrought Steel Swivel and Screw.

Projector 9½ in. Long; Bell 8x6½ in.; Length over all 13 in.; Height over all 13 in.

FOR 6 TO 8 VOLT CIRCUIT.

Each

‡No. 16 — Black Enameled Finish; Weight each about 23 lbs. $38.00 $52.50

One in a Dovetailed Wood Box.

‡Goods marked thus (‡) are not carried in stock and can only be furnished by shipment direct from factory.

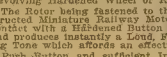
HORNS.

KLAXON
HIGH-GRADE STEEL.

The Sound is Produced by a Tough Vanadium Steel Diaphragm, set in Rapid Vibration by means of a Rapidly Revolving Hardened Wheel or Rotor.

The Rotor being fastened to the shaft of a finely constructed Miniature Railway Motor causes it to come in contact with a Hardened Button in Center of Diaphragm and produces instantly a Loud, Full, Clear and Penetrating Tone which affords an effective Warning Signal.

Push Button and sufficient Insulated Wire furnished for Installing.



KLAXON 20-S

HIGH GRADE STEEL.

Projector 1⅜ in. Long; Bell 4¾ in. in Diameter; Length over all 4¾ in.; Hgt. over all 9⅜ in.

FOR 6 TO 8 VOLT CIRCUIT.

No. S—Black Enameled Finish. Each $32.00 $48.00

Weight Each about 12 lbs.

KLAXON 12-L.

Same High Grade Construction as all Klaxons; Constructed for use under Hood of Machine but can be attached to Outside of Car same as any other Horn.

Projector 7¾ in. Long, Bell 4¾x4¾ in.; Length over all 12½ in.; Height over all 6½ in.

Each

No. 12—Black Enameled Finish. Weight each about 12 lbs.. $15.00 $27.00

KLAXON—6.

HIGH GRADE STEEL.

Constructed for use under the Hood of the Machine.

Attractive in Appearance, and, while it is designed as an Underhood Type, it can be attached on Outside of Car like any other Horn on the Market.

Projector 6 in. Long; Bell 5½x4 in.; Length over all 9⅝ in.; Height over all 5⅞ in.

BLACK ENAMELED.

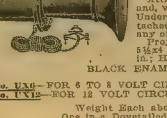
Each

No. UX6—FOR 6 TO 8 VOLT CIRCUIT..... $9.50 $14.30

No. UX12—FOR 12 VOLT CIRCUIT..... 9.50 14.30

Weight Each about 7 lbs.

One in a Dovetailed Wood Box.



KLAXON 5.

Same High Grade Construction as all Klaxons; Constructed for use under Hood of Machine; Very attractive in appearance

Torpedo Projector 4¾ in. Long; Bell 2¾ in. in Diameter; Length over all 6⅜ in.; Black Enameled Finish

Wire and Push Button not included.

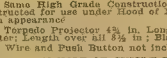
12 VOLT OR SINGLE WIRE SYSTEM.

FOR ALL CARS.

Each

‡No. 5—WITHOUT BRACKET; Height over all 4½ in.; Weight each about 2¾ lbs. $8.00 $12.00

GIVE MAKE OF CAR, MODEL, NUMBER AND YEAR



FOR FORD CARS: Factory-Equipped with Starting and Lighting System

Each

No. FS—WITH BLACK ENAMELED BRACKET FOR ATTACHING TO ENGINE: Height over all 9 in.. Weight each about 3 lbs... $8.00 $12.00

One in a Dovetailed Wood Box

"BARCLAY" WATCHES.

FULLY GUARANTEED FOR FIVE YEARS.

7 Jewels, 5 Years Guaranteed Movement. Open Face, Thin Model.

A new thin wafer model watch, durable and reliable, 7 jewel, adjusted non-magnetic lever movement guaranteed for five years. The case has a screw back and bezel, dust and moisture proof. American made

FIVE YEAR GUARANTEE.

Net each

NO. 14208—**Solid Nickel Silver Case,** which always wears with the appearance of sterling silver, seven jeweled movement ....Retail price $10.50 **$14.50**

NO. 14048—**Ten Year Guaranteed Gold Case,** seven jeweled movement .... Retail price $14.75 **$18.00**

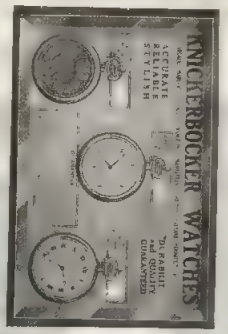
RADIUM DIAL. FIVE YEAR GUARANTEE.

Net each

NO. 14048L—**Ten Year Gold Case,** seven jeweled movement, the Radium luminous material on dial and hands is guaranteed for **ten years,** but good for a lifetime ..... . Retail price $16.75 **$20.00**

ALL ONE ONLY IN A BOX.

LITTLE WATCH SHOP ASSORTMENT.



The Little Watch Shop is a Practical Combination of Low Priced Durable Timepieces That Are Very Much in Demand.

For full description see separate watches shown on next column

Net each

NO. 14208—**Nickel Silver Case,** seven jeweled movement Retail price $10 50 **$14 50**

NO. 14048—**Ten Year Gold Case,** seven jeweled movement. Retail price $14 75 **18 00**

NO. 14048L Ten Year Gold Case, seven jeweled movement, Radium Luminous dial . .Retail price $16.75 **20.00**

Total Retail value $42.00

Net per asst.

The Little Watch Shop Assortment, containing 1 each of above mentioned watches, packed in an attractive mahogany finished sliding front display case, for use on counter or can be hung... **$52.50**

Bracelet ARCALA Watches.

"EVANGELINE SET"

FIVE YEAR GUARANTEE

Net each

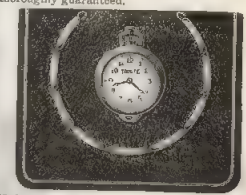
NO. 22754 An artisticly designed 2-0 ladies size convertible bracelet watch, seven jewel straight line lever movement, highly damskeened bridge plates, selected ruby jewels, non-magnetic and adjusted, 10 yr. gold filled plain polish case and expansion bracelet, adjustable to any size wrist, absolutely guaranteed... **$21.60**

ALL ONE ONLY IN A NICE JEWELRY BOX.

Bracelet TRINITE Watches

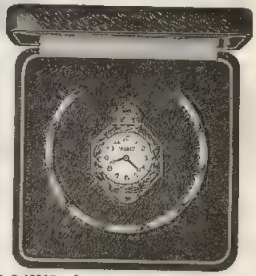
Fully Guaranteed for Five Years—15 Jewel

Non-magnetic adjustable lever movements, cases are plain polish and engraved design, hinge back, 20 year gold filled and 14 kt., all trinite convertable bracelet watches are about the size of a ten cent piece, attractive, reliable and are thoroughly guaranteed.



NO. R10008 Round model, plain polish 20 year case ..Retail $22.00 Net each **$32.00**

NO. R10408 Round model, plain polish 14 kt case.....Retail $35.00 **52.00**



NO. 0-10008—Octagon model, plain polish, 20 year case ....Retail $25.00 Net each **$37.00**

NO. 0-10408 .Octagon model, plain polish, 14 kt case. Retail $47.00 **58.00**

NO. 0-1002B Octagon model, engraved, 20 year case. Retail $35.00 **40.00**

NO. 0-1042B Octagon model, engraved, 14 kt. case Retail $40 00 **60.00**

BLACK SILK BRACELETS.

NO. 1000—**Black Silk Bracelet,** for any ladies' wrist watch in stock .. Retail $1.50 **$2.00**

WITH BLACK SILK BRACELET.

Net each

NO. C900ISR— Cushion 9¾ Lignie, 15 jewel lever movement, 20 year gold filled case, sew on ribbon with gold filled buckle..... Retail $36 50 **$42 00**

NO. C940ISR – Cushion 8¾ Ligne, 15 jewel lever movement, 14 kt. solid gold, plain polished case. Sew on ribbon with gold buckle..... . . Retail $45.00 **66.00**

ALL ONE ONLY IN A NICE JEWELRY BOX.

GENTS' COMPLETE ELGIN OR WALTHAM WATCHES.

7, 15 AND 17 JEWELS, GUARANTEED 20 YEAR CASES.

Plain Polished, Engine Turned and Engraved, Open Face and Hunting. All Open Face Cases are Screw Back and Bezel.

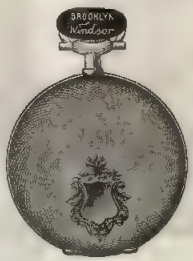
ORDER BY NUMBER ONLY

12 SIZE. 20 YEAR SOLID GOLD FILLED CASES.

ALL PRICES NET EACH

Plain Polish.

NO.		Net each
50—	7 Jewel, open face	$24.10
51	-15 Jewel, open face	31.30
52—	17 Jewel, open face	35.60
53—	7 Jewel, hunting	30.00
54—	15 Jewel, hunting	37.00
55—	17 Jewel, hunting	41.30



Engine Turned.

NO.		Net each
56—	7 Jewel, open face	$24.70
57—	15 Jewel, open face	31 80
58—	17 Jewel, open face	36.10
59—	7 Jewel, hunting	30.70
60—	15 Jewel, hunting	37.70
61—	17 Jewel, hunting	42.00

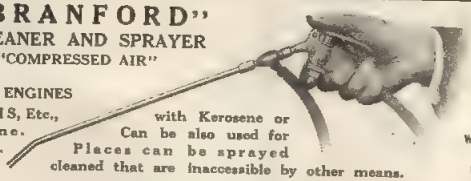
Engraved Cases Assorted Patterns.

NO.		Net each
62—	7 Jewel, open face	$26.50
63—	15 Jewel, open face	33 50
64—	17 Jewel, open face	37.80
65—	7 Jewel, hunting	33.00
66—	15 Jewel, hunting	40.00
67—	17 Jewel, hunting	44.20
68—	7 Jewel, open face	$26.50
69—	15 Jewel, open face	33 50
70	-17 Jewel open face	37 80
71—	7 Jewel, hunting	33.00
72—	15 Jewel, hunting	40.00
73	-17 Jewel, hunting	44.20

NOTICE.

PRICES SUBJECT TO MARKET CHANGES WITHOUT NOTICE AND OUR ABILITY TO GET THE WATCHES.

"BRANFORD"
CLEANER AND SPRAYER
"COMPRESSED AIR"



CLEANS ENGINES CHASSIS, Etc., Gasoline. Painting. and with Kerosene or Can be also used for Places can be sprayed cleaned that are inaccessible by other means.

PRICE
With 12" Extension
$4.00
F. O. B. Factory
VACUUM TIP
50c EXTRA

MALLEABLE IRON FITTINGS CO.
BRANFORD, CONN., U. S. A.

Garagemen
Service
Stationmen
Order the Universal from your jobber—or write direct to us.

UNIVERSAL SAFETY TOWING BAR
"The Bar That Steers the Car"

Made of the finest steel and webbing—it lasts. Enables one man to bring in any crippled car. Keeps the disabled vehicle a constant, uniform distance from towing car. Safer than a tow line which might break, or into which another car might run, particularly at night. *Saves a man every time you use it.* Price, only $20 00 each.

UNIVERSAL SAFETY TOWING BAR COMPANY
691 Parkside Ave. BUFFALO, N. Y.

L'ÉCLAIREUR **Automobile Lamps**

For That Distinctive Type of Motor Car
A PROJECTOR OF UNUSUAL ILLUMINATING POWER

L'ÉCLAIREUR lamps are a high-class product, equipped on the finest types of cars, such as Packard, Cunningham, Pierce-Arrow, Locomobile, Marmon, Lincoln, McFarlan, Cadillac, etc.

Finished in full polished NICKEL with "SUPERIOR" LEGALIZED PRISMATIC LENSES Fastidious motor car owners should specify L'ÉCLAIREUR lamp designs of unique pattern Write Department "L."

SUPERIOR LAMP MFG. COMPANY, INC.
151 West 52d Street New York City, U. S. A.
Branch: 316 Halsey Street, Newark, New Jersey

K-E-M TERMINALS
(FOR HIGH AND LOW TENSION)
NO TOOLS——NO SOLDER
Greatly Superior But Not More Expensive
List Price 10 Cents Handsome Profit for Jobbers

Makes absolute, highly-efficient electrical connection in a jiffy. Cannot be pulled loose, neither can it vibrate loose.

Write for Samples and Quotations

K-E-M CO., Inc.
474-A Sterling Place Brooklyn, N.Y.

CARBURETORS.

LACHARNAY.

FOR MODEL T, FORD CARS.

The special construction of this Throttle-Control Carburetor develops the full capabilities of the Engine in Ford Cars, causing it to run smoother and give better power at all Speeds; The absolute Throttle-Control effects a great improvement in Carburetor performance, the main and supplementary air passages are opened and closed by means of a simple rod and lever, eliminating all dependence on the suction of the motor and without disturbing the setting of the Carburetor.

Each changing position of the Throttle produces a corresponding change in the quality of the mixture. Revolving Barrel permits no more nor less gas and air to pass into combustion chamber than is required by speed of motor—unfailingly delivering the exact mixture demanded at every Throttle position.

Fitted with air Control Disc which can be set by a single turn of the fingers to any one of four positive positions.

Each

No. 26—BRONZE AND BRASS; Weight each about 3½ lbs. **$27.00**

One in a Cardboard Box.

SCHEBLER—BUICK. SIX.

Outfit consists of a 1¼ in. Special Model "E" Schebler Carburetor, with an Extended Heat Jacket, Special Gasoline Connection, Hot Air Drum and Tubing; CARBURETORS FOR BOTH BIG AND LITTLE SIX ARE 1¼ IN. IN SIZE, BUT ARE NOT INTERCHANGEABLE, as they have entirely different assemblies. They are Stamped on the flange, whether for Big or Little Six. These Carburetors replace the present equipment on the Buick without change, and will give entirely satisfactory results at all speeds and under all varying weather conditions.

Each

No. BL1¼—FOR BUICK "LITTLE SIX" **$31.00**

No. B1¼—FOR BUICK "BIG SIX" **31.60**

One in a Cardboard Box; Weight each about 8 lbs.

SCHEBLER -FORD MODEL "A".

A Plain Tube Non-moving Part Carburetor with many New features and Principles of Carburetion; The Pilot Tube or Improved Type Gasoline Nozzle Automatically furnishes a rich mixture for acceleration and thins out this mixture after normal Motor Speed has been reached; Also furnishes a very economical running mixture at all Motor Speeds; A Low Speed of Four to Five miles an hour can be secured without any loading or missing and the maximum speed and Power of Motor is assured.

Each

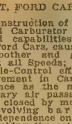
No. FA—Weight each about 7 lbs. **$25.00**

One in a Cardboard Box.

Has Two Gasoline Needle Adjustments, One for Low Speed and Idling and One for High Speed; These adjustments, together with the Hot Air Drum, have been found advisable and necessary to properly handle the present heavy grades of fuel and the variations in the Motors due to wear, etc.; The Adjustments also insure the attaining of the widest Range of Motor Speed. The Double Choker furnished assures easy starting under the most severe weather conditions and the mixture controlled from Driver's Seat.

The Model "A" Schebler-Ford Outfit consists of: One Model "A" 1 in. Carburetor, Steering Column Control, Hot Air Drum, Flexible Tubing, Manifold Gasket, Two Cap Screws and Radiator Choke Wire.

CARBURETORS.



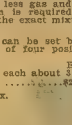
SCHEBLER. MODEL "L".

Made of Cast Brass.

Designed for High Speed Motors where Low Throttling, Rapid Acceleration, Maximum Power and Speed are required; Needle Lift Fuel Valve which Automatically works with the Throttle; The Adjustment or Control of Gasoline in this Carburetor can be adjusted for Low, Intermediate or High Speed; Each Adjustment being Independent and not affecting either of the other Adjustments.

Constructed with a Water Jacket which should be connected with the Hot Water coming from around the Cylinders or to the Hot Air from the Exhaust to help in Gasifying and Atomizing Carburetor trouble caused by the poorer grades of Gasoline.

Nos.	L1	L1¼	L1½
For Standard Iron Pipe, Inches	¾	1¼	1½
Weight each about, lbs.	5	5	5
Each	$25.00	26.06	31.20



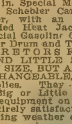
MODEL "D".

Made of Cast Brass

Designed for Marine, Single or Double Opposed Motors or Stationary Engines, and all Motors where Extreme low Throttling conditions are not required

Constructed with a Butterfly Shutter in the Intake; A wire should be attached to this and run to some convenient place so that when Engine is to be started the Shutter may be closed, thereby causing a Rich Mixture to enter the Cylinders and easily start the Engine.

Nos.	D¾	D1	D1¼
For Standard Iron Pipe, inches	¾	1	1¼
Weight each about, lbs.	2½	4½	5
Each	$16.06	19.76	19.76



MODEL "F".

Designed for Motorcycles and all Small, High Speed Motors where Flexibility and Perfect Control are required; The Gasoline supply is controlled by a Cam which affords a Low, Intermediate or a High Speed. The Air Intake is so constructed that it may be turned at any angle in order to draw Warm Air off of the Cylinder, thereby producing a stronger Explosive Mixture in the Cylinders. The Throttle Lever is so constructed that by loosening one Set Screw the Lever may be set at any angle desired, thus making connection with the Controlling Lever in the most Satisfactory Manner and eliminating any possible lost motion.

No. H¾ made of Aluminum, Polished; No. H1 made of Brass, Nickel-Plated.

Nos.	H¾	H1
Made of	Aluminum	Brass
For Standard Pipe, inches	¾	1
Weight each about, lbs.	1	2
Each	$19.76	19.76

Table showing Bore of Cylinders, Model of Carburetors to be used, and Diameter Opening of Standard Iron Pipe to which Carbursators can be connected.

FOUR-CYCLE TYPES OF MOTORS.

SINGLE AND DOUBLE CYLINDER.

For Motors having Cylinders, Diameter Bore, inches	Model Carburetor	Threaded to fit Standard Iron Pipe (measured by the Diameter of Opening), inches.
2 to 3	D or H	¾
2¾	D or L	1
4	D or L	1
4½	D or L	1 or 1¼
5	D or L	1¼ or 1½
5½	L	1½
6	L	1½
6½	L	1½
7	L	1½

FOUR CYLINDER. Threaded to fit

For Motors having Cylinders Diameter Bore, Inches	Model Carburetor	Standard Iron Pipe (measured by the Diameter of Opening), inches.
3	L	1
4	L	1 or 1¼
4½	L	1¼
5	L	1½

SIX CYLINDER. Threaded to fit

For Motors having Cylinders, Diameter Bore, inches	Model Carburetor	Standard Iron Pipe (measured by the Diameter of Opening), inches
3½	L	1
4	L	1¼ or 1½
4½	L	1¼
4½	L	1½

Packed Loose.

CARBURETORS.

LACHARNAY.

FOR MODEL T, FORD CARS.

The special construction of this Throttle-Control Carburetor develops the full capabilities of the Engine in Ford Cars, causing it to run smoother and give better power at all Speeds; The absolute Throttle-Control effects a great improvement in Carburetor performance, the main and supplementary air passages are opened and closed by means of a simple rod and lever, eliminating all dependence on the suction of the motor and without disturbing the setting of the Carburetor.

Each changing position of the Throttle produces a corresponding change in the quality of the mixture. Revolving Barrel permits no more nor less gas and air to pass into combustion chamber than is required by speed of motor—unfailingly delivering the exact mixture demanded at every Throttle position.

Fitted with air Control Disc which can be set by a single turn of the fingers to any one of four positive positions.

Each

No. 26—BRONZE AND BRASS; Weight each about 3½ lbs. **$27.00**

One in a Cardboard Box.

SCHEBLER—BUICK. SIX.

Outfit consists of a 1¼ in. Special Model "E" Schebler Carburetor, with an Extended Heat Jacket, Special Gasoline Connection, Hot Air Drum and Tubing; CARBURETORS FOR BOTH BIG AND LITTLE SIX ARE 1¼ IN. IN SIZE, BUT ARE NOT INTERCHANGEABLE, as they have entirely different assemblies. They are Stamped on the flange, whether for Big or Little Six. These Carburetors replace the present equipment on the Buick without change, and will give entirely satisfactory results at all speeds and under all varying weather conditions.

Each

No. BL1¼—FOR BUICK "LITTLE SIX" **$31.00**

No. B1¼—FOR BUICK "BIG SIX" **31.60**

One in a Cardboard Box; Weight each about 8 lbs.

SCHEBLER -FORD MODEL "A".

A Plain Tube Non-moving Part Carburetor with many New features and Principles of Carburetion; The Pilot Tube or Improved Type Gasoline Nozzle Automatically furnishes a rich mixture for acceleration and thins out this mixture after normal Motor Speed has been reached; Also furnishes a very economical running mixture at all Motor Speeds; A Low Speed of Four to Five miles an hour can be secured without any loading or missing and the maximum speed and Power of Motor is assured.

Each

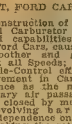
No. FA—Weight each about 7 lbs. **$25.00**

One in a Cardboard Box.

Has Two Gasoline Needle Adjustments, One for Low Speed and Idling and One for High Speed; These adjustments, together with the Hot Air Drum, have been found advisable and necessary to properly handle the present heavy grades of fuel and the variations in the Motors due to wear, etc.; The Adjustments also insure the attaining of the widest Range of Motor Speed. The Double Choker furnished assures easy starting under the most severe weather conditions and the mixture controlled from Driver's Seat.

The Model "A" Schebler-Ford Outfit consists of: One Model "A" 1 in. Carburetor, Steering Column Control, Hot Air Drum, Flexible Tubing, Manifold Gasket, Two Cap Screws and Radiator Choke Wire.

CARBURETORS.



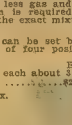
SCHEBLER. MODEL "L".

Made of Cast Brass.

Designed for High Speed Motors where Low Throttling, Rapid Acceleration, Maximum Power and Speed are required; Needle Lift Fuel Valve which Automatically works with the Throttle; The Adjustment or Control of Gasoline in this Carburetor can be adjusted for Low, Intermediate or High Speed; Each Adjustment being Independent and not affecting either of the other Adjustments.

Constructed with a Water Jacket which should be connected with the Hot Water coming from around the Cylinders or to the Hot Air from the Exhaust to help in Gasifying and Atomizing Carburetor trouble caused by the poorer grades of Gasoline.

Nos.	L1	L1¼	L1½
For Standard Iron Pipe, Inches	¾	1¼	1½
Weight each about, lbs.	5	5	5
Each	$25.00	26.06	31.20



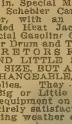
MODEL "D".

Made of Cast Brass

Designed for Marine, Single or Double Opposed Motors or Stationary Engines, and all Motors where Extreme low Throttling conditions are not required

Constructed with a Butterfly Shutter in the Intake; A wire should be attached to this and run to some convenient place so that when Engine is to be started the Shutter may be closed, thereby causing a Rich Mixture to enter the Cylinders and easily start the Engine.

Nos.	D¾	D1	D1¼
For Standard Iron Pipe, inches	¾	1	1¼
Weight each about, lbs.	2½	4½	5
Each	$16.06	19.76	19.76



MODEL "F".

Designed for Motorcycles and all Small, High Speed Motors where Flexibility and Perfect Control are required; The Gasoline supply is controlled by a Cam which affords a Low, Intermediate or a High Speed. The Air Intake is so constructed that it may be turned at any angle in order to draw Warm Air off of the Cylinder, thereby producing a stronger Explosive Mixture in the Cylinders. The Throttle Lever is so constructed that by loosening one Set Screw the Lever may be set at any angle desired, thus making connection with the Controlling Lever in the most Satisfactory Manner and eliminating any possible lost motion.

No. H¾ made of Aluminum, Polished; No. H1 made of Brass, Nickel-Plated.

Nos.	H¾	H1
Made of	Aluminum	Brass
For Standard Pipe, inches	¾	1
Weight each about, lbs.	1	2
Each	$19.76	19.76

Table showing Bore of Cylinders, Model of Carburetors to be used, and Diameter Opening of Standard Iron Pipe to which Carbursators can be connected.

FOUR-CYCLE TYPES OF MOTORS.

SINGLE AND DOUBLE CYLINDER.

For Motors having Cylinders, Diameter Bore, inches	Model Carburetor	Threaded to fit Standard Iron Pipe (measured by the Diameter of Opening), inches.
2 to 3	D or H	¾
2¾	D or L	1
4	D or L	1
4½	D or L	1 or 1¼
5	D or L	1¼ or 1½
5½	L	1½
6	L	1½
6½	L	1½
7	L	1½

FOUR CYLINDER. Threaded to fit

For Motors having Cylinders Diameter Bore, Inches	Model Carburetor	Standard Iron Pipe (measured by the Diameter of Opening), inches.
3	L	1
4	L	1 or 1¼
4½	L	1¼
5	L	1½

SIX CYLINDER. Threaded to fit

For Motors having Cylinders, Diameter Bore, inches	Model Carburetor	Standard Iron Pipe (measured by the Diameter of Opening), inches
3½	L	1
4	L	1¼ or 1½
4½	L	1¼
4½	L	1½

Packed Loose.

Increase Your Production Per Man

with the Lakewood Material-Handling Machines

Lakewood Electric Tractor—Drives and steers on all four wheels. Three speeds forward and reverse. Double end control.

Lakewood Electric Truck Capacity 4,000 lbs. 4-wheel drive and steer. Climbs 10% grades fully loaded. Platform or V-Dump Type.

Lakewood Electric Tier-Lift Truck—Picks up, transports and elevates loads up to 4,000 pounds. Four-wheel steer, separate elevating motor. Tiering heights 42", 60", 76", and 96".

No. 810 Warehouse Type Trailer — For power and hand haulage, Hyatt Roller Bearings. New Departure ball bearings in castors. Capacity 4,000 lbs. Exceptionally easy running.

No. 801 Four Wheel Steer Trailer — Trails and turns accurately in narrow spaces. Steering coupler reversible. Capacity 4,000 lbs.

No. 241 V-Dump Car—For locomotive or hand haulage. Roller bearings link and pin couplings, capacities, 18 cu. ft., 1, 1½ and 2 yards. Standard gauges 24, 30 and 36".

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Methods and Machines

St. Louis Truck & Mfg. Co., 3200 N. Hall St., St. Louis, Mo. See Advt. Index, Page 7
Standard Scale & Sup. Co. The, Pittsburgh, Pa.
Sterling Wheelbarrow Co., 54th and Pullen Ave., Milwaukee, Wis. .....See Page 7
The Sterling line of Galvanized Carts, Trucks and Boxes is endorsed by the U. S. Government meat inspectors. It is the improved and perfected result of many years' experience, experiment, and study of packing house requirements. Guaranteed to pass the inspection, and fill all practical packing house requirements. (Catalog No. 30.)
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Union Steel Products Co., Ltd., Albion, Mich.
Western Wheel Barrow Mfg. Co., So. Fort Smith, Ark.
Wood Company, Guilford S., Trucks, Great Northern Bldg., Chicago ..... See Page 7
Zering Mfg. Co., The H., Cincinnati, O.

Trucks, Pipe

Automatic Transportation Co., The, 2937 Main St., Buffalo, N. Y.
Cady, Paul C. New York.
Fairbanks, Morse & Co., Chicago.
Kelly-Derby Co., Inc., Peoples Gas Bldg., Chicago . . . . . See Advt. Index, Page 7
Nutting Truck Co., Faribault, Minn.
Sackett Screen & Chute Co., H. B., Chicago.
St. Louis Truck & Mfg. Co., 3200 N. Hall St., St. Louis, Mo. See Advt. Index, Page 7
Western Wheel Barrow Mfg. Co., So. Fort Smith, Ark.
Wood Company, Guilford S., Trucks, Great Northern Bldg., Chicago .....See Page 7
Zering Mfg. Co., The H., Cincinnati, O.

Trucks, Railroad Platform, Warehouse and Factory

Abell-Howe Company, Chicago.
Amer. Vulcanized Fibre Co., Wilmington, Del.
Armstrong Truck Co., North Wales, Pa.
Automatic Transportation Co., The, 2937 Main St., Buffalo, N. Y.
Barrett-Cravens Co., Chicago.
Bernstein Mfg. Co., Philadelphia, Pa.
Cady, Paul C., 133 Greenwich St., New York . . . . . See Advt. Index, Page 7
Certes Supply Co., St. Louis, Mo.
Chicago Ry. Signal & Supply Co., Chicago.
Cowan Truck Company, Holyoke, Mass. . . . . .See Advt. Index, Page 7
See our advertisement.
Delaware Hard Fibre Co., Wilmington, Del.
Dewey Supply Corporation, 18 W. 34th St., New York.....See Advt. Index, Page 7
Edwards Mfg. Co., The, 432-482 Eggleston Ave., Cincinnati, O. . . . . See Page 7
Electric Wheel Company, Quincy, Ill
Factory Equipment Headquarters, New York
Fairbanks, Morse & Co., Chicago
Fay & Egan Co., J. A., Cincinnati, O. (Factory) . . . . . See Advt. Index, Page 7
Federal Steel Fixture Co., 4545 Homer St., Chicago. . . . . See Advt. Index, Page 7
Fowl, Julius, 207 W. 18th St., New York.
Grimm-Stewart, Inc., 242-244 Lafayette St., New York. . . . . See Advt. Index, Page 7
Gross Hardware & Supply Co., Phillip, 216-218-220 Fourth St., Milwaukee, Wis. . . . . See Advt. Index, Page 7
Howe Chain Company, 102 E. Clay Ave., Muskegon, Mich.
Kelly-Derby Co., Inc., Peoples Gas Bldg., Chicago. (All Steel)..... See Page 7
Indestructible freight house trailers.
Koenig Co., Edward L., 23 W. Kinzie St., Chicago . . . . . See Advt. Index, Page 7
Wooden or Steel, Hand or Trailer use, two or four wheel carrier and caster types, easy operating; practically indestructible.
Lakewood Engineering Co., The, Cleveland, ... See Advt. Index, Page 7
Lansing Company, The, 313 N. Cedar St., Lansing, Mich. . . . . See Advt. Index, Page 7
Lew & Shepard Co., Boston, Mass.
Light Railway Equipment Co., Philadelphia, Pa.
Lyon Metallic Mfg. Co., Aurora, Ill. (Steel.)
McKinney Mfg. Co., Pittsburgh, Pa.
Menasha Wood Split Pulley Co., Menasha, Wis.
Mercury Manufacturing Co., Chicago.
Michigan Truck & Lumber Co., Holly, Mich.
National Fibre & Insulation Co., Yorklyn Station, Del. . . . See Advt. Index, Page 7
National Scale Co., New York.
Nutting Truck Company, Faribault, Minn.
Pauly Jail Building Co., St. Louis, Mo. (For Pauly Jail Barrow.)
Service Caster & Truck Co., Kansas City, Mo.
St. Louis Truck & Mfg. Co., 3200 N. Hall St., St. Louis, Mo. See Advt. Index, Page 7
"American" Self Oiling Steel Warehouse Trucks are the most economical in upkeep, require oiling only four times a year, which saves oil, time and labor, giving steady and uniform lubrication; operate easier under load and keep repairs down to a minimum.
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Standard Supply & Hardware Co., Inc., New Orleans, La.
Stuebing Truck Co., The, Cincinnati, O.
Towmotor Company, The, 1226 E. 152nd St., New York.....See Advt. Index, Page 7
Transportation Engineering Corp., New York.
Western Wheel Barrow Mfg. Co., So. Fort Smith, Ark.
Wood Company, Guilford S., Trucks, Great Northern Bldg., Chicago ..... See Page 7
Zering Mfg. Co., The H., Cincinnati, O.

Trucks, Refuse

Automatic Transportation Co., The, 2937 Main St., Buffalo, N. Y.
Harry Steel Co., O. K., St. Louis, Mo.
Lyon Metallic Mfg. Co., Aurora, Ill.
St. Louis Truck & Mfg. Co., St. Louis, Mo.
Western Wheel Barrow Mfg. Co., So. Fort Smith, Ark.

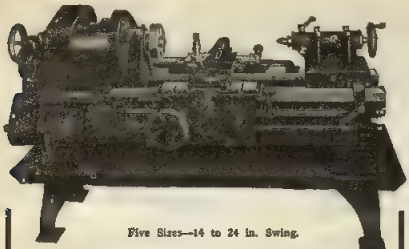
Trucks, Repair

Auto Parts Mfg. Co., Milwaukee, Wis
Automobile Accessories Co., Baltimore, Md.
French, E. A., Pittsburgh, Pa.
Milwaukee Auto Specialty Co., Milwaukee, Wis.
Simplex Auto Specialty Co., Detroit, Mich.
Western Wheel Barrow Mfg Co., So. Fort Smith, Ark.

Trucks, Searchlight

Acme Road Mchy Co., Frankfort N. Y.
Armstrong Truck Co., No. Wales Pa.
Detroit Trailer Co., Detroit, Mich
Trail-Mobile Co., Cincinnati
Ward Motor Vehicle Co., Mt. Vernon, N. Y.
Warner Mfg. Co., Beloit, Wis.

¶ Inquiries addressed to concerns shown in **black-faced type** will have special attention.



Five Sizes—14 to 24 in. Swing.

"Lehmann Lathes"

Three Step Cone—Double Back Geared—Quick Change Gear and Geared Head—Motor Drive and Single Pulley Drive

These are strictly high grade Engine Lathes of superior design and thoroughly good workmanship and material.

Used by the best shops of the country for better results.

Let us send you complete specifications and details.

Write us today. Now!

LEHMANN MACHINE COMPANY

3556 Chouteau Avenue St. Louis, U. S. A.

Rapid Production HAMILTON Machine Tools

The "Hamilton" Spirit

Embodied in every LATHE or PLANER of "HAMILTON" make is the spirit of the organization—

—A desire to build and sell accurate, efficient, rapid production tools only.

—To deal fairly and to have amongst the ever-increasing list of users only those who are satisfied.

THE HAMILTON MACHINE TOOL CO.

HAMILTON, OHIO

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Boye & Emmes Machine Tool Co., The, Cincinnati, O.
Lehmann Machine Co., 3556 Chouteau Ave., St. Louis, Mo. See Advt. Index, Page 7
Manning, Maxwell & Moore, New York.
Mueller Machine Tool Co, The Cincinnati, O
Sebastian Lathe Co., Cincinnati, O.

Lathes, Crankshaft and Pin Turning

Boye & Emmes Machine Tool Co., The, Cincinnati O
Dunn Co W C, Cincinnati, O.
Manning, Maxwell & Moore, New York.
Wickes Brothers, Saginaw, Mich.

Lathes, Cutting-Off

Davis Machine Tool Co., Inc., Rochester, N. Y. ..... See Advt. Index, Page 7
Hurlbut-Rogers Mach. Co, So. Sudbury, Mass
Niles-Bement-Pond Co., New York.

Lathes, Cutting, Screw See Machines, Screw, Hand

Lathes, Drill

Garvin Machine Co., The, New York.

Lathes, Engine

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Beck & Corbitt Iron Co., 1232-1244 Main St., St. Louis, Mo. See Advt. Index, Page 7
Betts Machine Co., Rochester, N. Y. ..... See Advt. Index, Page 7
Boye & Emmes Machine Tool Co., The, Cincinnati O (Up to 42" Swing.)
Canedy-Otto Mfg Co, Chicago Heights, Ill.
Carroll-Jamieson Mach. Tool Co., Batavia, O.
Champion Tool Works Co, Cincinnati, O
Cincinnati Lathe & Tool Co, Cincinnati, O.
Clyde Iron Works, Duluth Minn
Davis Machine Tool Co., Inc., Rochester, N. Y. See Advt. Index, Page 7
Fay & Egan Co., J. A., Cincinnati, O ..Page 7
Flather & Co, Nashua N. H.
Foss Machinery Co., Inc., The Geo. P., 174 Lafayette St., New York.
Greaves-Klusman Tool Co., The, Cincinnati, O.
Hendey Machine Co., Torrington, Conn
Johnson Co, Israel H., Jr., Philadelphia, Pa.
Lehmann Machine Co., 3556 Chouteau Ave., St. Louis, Mo. See Advt. Index, Page 7
LEHMANN LATHES" are built for accuracy and production. Five sizes 14"/16½", 16"/18 ½", 18"/20½", 22"/24½" and 24"/27½". Any length bed. Two types—three step cone—double back geared and geared head—sixteen spindle speeds. Send for complete illustrated catalog with specifications.
Lodge & Shipley Mach. Tool Co., Cincinnati, O
Lynd-Farquhar Co., 419 Atlantic Ave., Boston, Mass .See Advt. Index, Page 7
Morris Machine Tool Co., Cincinnati, O
Mueller Machine Tool Co, The, Cincinnati, Ohio.
National Lathe Co., The, Cincinnati, O.
Pratt & Whitney Co., Hartford, Conn.
Rahn-Larmon Co., The, 2941 Springrove Ave., Cincinnati, O. ..... See Page 7
Manufacturers of Engine, Turret and Gap Lathes. From 16" to 36" inclusive, including the 22/40"—24/48" Extension Bed Gap Lathes. Also manufacturers of a removable bed Gap type of lathe See advertisement.
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Robbins Machine Co., Worcester, Mass.
San Francisco Engineering Co., San Francisco Cal.
Simmons Machine Co., Inc., Albany, N. Y.
Smith Mfg. Co., The Philip, Sidney O
South Bend Lathe Works, South Bend, Ind.
Standard Machinery Co., The, 483 Chapel St., New Haven, Conn ...See Page 7
United States Lathe & Mach. Co., Cincinnati, O.
Wickes Brothers, Saginaw Mich
Willard Machine Tool Company, The, Cincinnati, O.
Wood Newspaper, Wight & Co., Ltd., New Orleans, La.
Wright, David Co., Cor. Jefferson St. and Washington Blvd., Chicago. See Page 7
Zelnicker Supply Co., Walter A., St. Louis, Mo.

Lathes, Engine, Heavy Duty

(This list covers powerful engine lathes for use with high speed tool steel and also heavy forge lathes for rough turning of heavy forgings, etc.)
American Tool Works Co., Cincinnati, O.
Betts Machine Co., Rochester, N. Y See Page 7
"If it's a lathe problem put it up to Bridgeford" The Bridgeford line includes Heavy Geared Head Engine Lathes of 24" to 72" swing, Cone Driven Engine Lathes, Axle and Journal Truing Lathes, Quick Change Gear Lathes, Rod Lathes, Roughing Lathes, Shaft Lathes, Turret Lathes and Boring Lathes. There's a Bridgeford Lathe for every heavy duty lathe requirement.
Boye & Emmes Machine Tool Co., The, Cincinnati, O.
Greaves-Klusman Tool Co., The, Cincinnati, O.
Hamilton Machine Tool Co., The, Hamilton, O .See Advt. Index, Page 7
Lehmann Machine Co., 3556 Chouteau Ave., St. Louis, Mo. See Advt. Index, Page 7
"LEHMANN LATHES" are ideally suited for heavy duty and high production on account of their superior power, strength and rigidity. Our circular gives you full details.
Mueller Machine Tool Co, The Cincinnati, O.
National Lathe Co., The, Cincinnati, O.
Niles-Bement-Pond Co., New York ..... See Advt. Index, Page 7
Ryerson & Son, Jos. T., Chicago, New York, Buffalo, St. Louis, Detroit ... See Page 7
These are the most advanced type of high-speed, high duty lathes. Geared headstock is massive, with large bronze spindle bearings self-oiling throughout. No counter-shaft is required, as the spindle may be instantly started, stopped or reversed by means of a single lever on the apron.
United States Lathe & Mach. Co., Cincinnati, O.
Wickes Brothers, Saginaw, Mich.
Willard Machine Tool Co., The, Cincinnati, O.

Lathes, Extension Gap

(Lathe constructed so that upper part of bed may be moved on the lower part, increasing the distance between centers and giving a gap near the head so that the swing for face plate work is increased.)
Barnes Drill Co., 822-850 Chestnut St., Rockford, Ill See Advt. Index, Page 7
Fay & Scott, Dexter, Me.
Johnson Co., I H., Jr., Philadelphia, Pa.
Niles-Bement-Pond Co., New York
Rahn-Larmon Co., The, 2941 Springrove Ave., Cincinnati, O.....See Page 7

Lathes, Foot Power

(Small lathe operated by foot power)
Barnes Co., W. F. & Jno., Rockford, Ill.
Millers Falls Co., Millers Falls, Mass
Montgomery & Co., Inc., 105-107 Fulton St., New York..... See Advt. Index, Page 7
South Bend Lathe Works, South Bend, Ind.

Lathes, Forge See Lathes, Engine Heavy

American Made Watches

FREE

This Display Pad Furnished Free with Assortment

Will Give Satisfaction

All Guaranteed

No. 1W10. Leonard Watch, 14 size, open face, plain and fancy engraved nickel case, highly polished movements, stem wind and stem set, heavily regulated. Fully guaranteed. Each 1.10
No. 1W11. As above, gilt.... 1.10
No. 1W12. As above, gun met. 1.10

No. 1W18. Leonard Watch Assortment, consists of 6 Leonard 14 size, stem wind and set, finished nickel, gilt, and gun metal and 6 Leonard Night Watches treated with radium. Packed 12 to the assortment. Contains 1 attractive counter or window display fixture, displaying the 12 watches, with prices enclosed for resale purposes.

	Costs Dealer	Resale
6 Leonard 14s Watch.	1.10	1.50
6 Radium 14s Watch ..	2.10	3.00
Outfit.....	17.10	24.00
Making a profit of.....		6.90

No. 1W13. Leonard Nickel Night Watch, 14 size, stem wind and set. This watch has a black dial with numerals and hands which have been heavily treated with radium luminous material, rendering the dial easily readable in the darkness. The radium material is permanent and will last for years. Watches guaranteed one year and will repair free, provided they have not been misused. Each 1.75

No. 1W14. Leonard Earl Watch, 12 size, open face, very thin model, stem wind, pull out pendant set. A very attractive and satisfactory watch, fully guaranteed. Nickel finish. Each 2.47

No. 1W15. As above, gilt metal finish. Each 2.47

No. 1W19. Leonard Watch Assortment, consists of 6 Leonard assorted 14 size, stem wind and set, finished nickel, gilt and gun metal, 2 Leonard Night Watches treated with radium, 2 12 size Leonard Earl Watches, 2 6-size Duchess.

	Costs Dealer	Resale
6 Leonard 14s Watches	1.40	2.00
2 Leonard Night Watches	2.10	3.00
2 Leonard Earl Watches	2.50	3.50
2 6s Duchess.....	2.50	3.50
Outfit.....	21.60	30.00
Making a profit of		8.40

No. 1W16. Leonard Duchess, 6 size, open face, American made movement, pendant set, pull out, bassine shape, antique bow, plain polished or engraved nickel finish. Each 2.50

No. 1W17. As above, with gilt case. Each 2.50

We Guarantee all watches shown above for one year and will repair them free providing same has not been misused.

ATTRACTIVE SWISS WATCHES

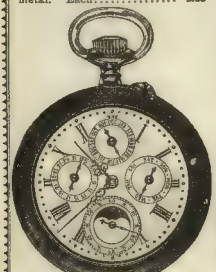
Novel and Unique Watches that are popular and appealing. They are in big demand. Unusual values at our Low Prices.

No. 2W1. Roskopf System Watch, 16 size, plain polished, solid case, antique crown and bow, stem wind, slug set, lever movement, hinge back, inside glass cap. Excellent running and timekeeping watch. Movement is constructed with a safety slip cog which prevents overwind or breaking of spring.
Each 1.85
No. 2W45. As above, in gun metal. Each..... 1.85

No. 2W2. Roskopf System Watch, 16 size, plain polished, solid case, antique crown and bow, stem wind and side set lever movement, hinge back, inside glass cap, assorted colored embossed dial. Movement is constructed with a safety slip cog, which prevents overwind or breaking of spring. Each..... 1.95

No. 2W46. As above, in gun metal. Each 1.95

No. 2W49. Gun Metal Alarm Watch, 16 size, highly polished gun metal case, fitted with a perfectly reliable alarm watch movement, filling all requirements of a watch and alarm at the same time. Jointed back inside cap, gilt bow and crown, white dial; you can't fail to wake up or time and you won't forget appointments if you carry one of these watches. Neatest and best. Each..... 5.00



No. 2W13. Calendar Watch, gun metal case, tinted and gold decorated enamel dial, with four subdials showing day of the week, month of the year and date of the month, the second dial also showing in perspective the phases of the moon. Each dial has individual and independent setting gear, hinge front and back, inside glass cap, 7-jewel lever, exposed winding wheel, nickel movement, well finished. A handsome watch all around, stem wind and set.
Each 3.95

No. 2W11. Men's 8-Day Watch, 16 size, gun metal case, visible escapement in lower half of dial, upper half with fancy decorations, stem wind and push pin set, 7-jewaled lever movement. Runs 8 days with one winding.
Each 3.95
No. 2W13. Same as above, nickel. Each..... 3.95

No. 2W56. Men's or Boys' 8-Day Calendar Watch, 16 size nickel case, visible escapement in lower half of dial, small dial with sweep second hand runs eight days with one winding. Fine jeweled movement. A dependable timekeeper.
Each 6.50

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE.

FIBRE SPEEDOMETER PINIONS.

FOR ALL "STEWART" SPEEDOMETERS.
Cotter Pin Type.

Net Each

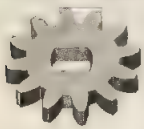
NO. 1—8 pitch, 16 teeth for 30 and 31 inch tires $0.20
NO. 2—9 pitch, 16 teeth for 32, 33, 34 and 37 inch tires..... .20
NO. 3—10 pitch, 16 teeth, for 35 and 36 inch tires ..... .20

Lock Nut Type.

NO. 11 8 pitch, 16 teeth, for 30 and 31 inch tires ..... .20
NO. 12—9 pitch, 16 teeth, for 32, 33, 34 and 37 inch tires..... .20
NO. 13—10 pitch, 16 teeth, for 35 and 36 inch tires ..... .20

Weight ½ oz.

FOR JONES, SEARS-CROSS AND STANDARD 1915 AND 1916 FORD EQUIPMENT, ALSO 1917 AND 1918 STANDARD FORD SPEEDOMETERS.



Net Each

NO. 8312—9 pitch, 12 teeth.....$0.24
NO. 9117—17 teeth, 9 pitch, for Jones or J-M **FORD** Speedometers when used with swivel joint, but not for direct drive ..... .12

Weight ½ oz.

AUTOMOBILE CLOCKS.

Eight day, dust-proof, guaranteed movement, especially constructed and re-inforced to withstand the jar of the machine and yet be in perfect beat when the car is stopped, has quick train, straight line escapement, perfect in workmanship and fully guaranteed.

In all clocks the winding and setting parts are assembled in the movement and have no connection whatever with the case. This eliminates all chance of variation between movement and case affecting the winding and setting mechanism.

Net Each

NO. 12 Black and nickel, mortises, into dash, 2¼ inch dial.....$20.00
NO. 13—Same as No. 12, except has luminous figures on dial..... 21.36

Weight 1½ lbs.

This is one of the best little clocks on the market for the price and on account of its construction, can be easily and quickly attached

Net Each

NO. 2—Cowl Board Flush Type, diameter 2½ inches, black and nickel finish $7.50

Weight ½ lb.

Cowlboard Type—Eight Day.

Latest model of Eight Day Cowl Dash Clock. New catch securing the movement. This clock is designed to be sunk into the dash and makes a very neat appearance. It has a new spring catch which holds the movement firmly in position. The face of the clock lies very close to the dash as no part need project for winding purposes. It has a standard, reliable movement which has been thoroughly tested in the Auto No. 2 case, and is protected from injury by a nickel plated brass cap. The clock measures 2¾ inches from rim to rim with 2½-inch dial and is 3 inches deep.

Net Each

NO. 3—Black and nickel..... $11.00

ONE IN A BOX.

Weight 1 lb.

AUTOMOBILE CLOCKS.

LEONARD RADIUM DIAL.
(The Leonard Night Watch converted into an Automobile Clock.)

The most practical and dependable one-day Auto Clock on the market. Thief proof, water-proof, dust-proof. Equipped with ingenious spring device which holds movement in place, and takes up the vibration and jar of car. Clock is 3½ inches in diameter and less than one inch in thickness. Fits any cowl board. Movement is fully adjusted and care fully regulated. Guaranteed satisfactory timekeeper and will be exchanged without charge if found defective. Net Each

NO. 24—Black enamel $6.50

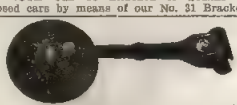
MIRRORSCOPES.

For Straight Windshields on Fords, Roadsters and Small Cars.

Style A "Windview" is 8½ inches over all and is attached to the windshield of the smaller cars with large firm clamp, such as roadsters and 5-passenger touring cars. Net Each

NO. A8 All black with plain lens.....$3.94

NOTE—Can be attached to Sedans or closed cars by means of our No. 31 Bracket.



For Straight Windshields on Large Touring Cars.

Style A-Long "Windview" is 12 inches over all and is attached to the windshield of the larger cars, with large firm clamp, such as 7-passenger touring cars and limousines.

Net Each

NO. AL—All black with plain lens.....$4.72

NOTE—Can be attached to Sedans or closed cars by means of our No. 31 Bracket.

BRACKETS.

FOR ATTACHING MIRRORSCOPES TO OUTSIDE FRAME WORK OF CLOSED CARS.

Attached by four wood screws. May also be used in attaching to square frame shield and for this purpose is furnished with two holes for ¼-inch bolt which may be tapped into steel windshield frame.

Long bolt furnished when ordered at no extra cost, for use on square frame or large windshield frame. Net Each

NO. 31—Finished in black.....$ .56

Weight 2 oz.

Try us on Magneto and Battery Distributor Parts.

PORTABLE METAL LAMPS.

Net Each

NO. E110—Height 23 inches; diameter of shade 17 inches, dull Cyprian bronze finish; two pull chain sockets, furnished complete with 6 feet of silk parallel cord and swivel attachment plug ..... List $18.50 **$28.00**

Attractive hexagon bent panel shade of blue bell floral design. Base of Brittannia cast metal.

An exquisite design with an octagon straight panel shade of amber glass overla.d in filigree. Brittania cast metal base

Net Each

NO. E790—Height 24 inches, diameter of shade 17 inches, finished in brushed brass and black; two pull chain sockets, furnished complete with 6 feet of parallel silk cord and swivel attachment plug. ..... List $19.00 **$28.10**

Net Each

NO. E570—Height 22 inches; diameter of shade 16 inches, Verde Antique finish; two pull chain sockets; furnished complete with 6 feet of parallel silk cord and swivel attachment plug..... List $22.00 **$32.90**

A decided novelty and very popular lamp. Shade of Japanese bent square panels. Highly ornamented square base of cast metal

Net Each

NO. E140—Height 23 inches, diameter of shade 16 inches; finished in antique brass, two pull chain sockets; furnished complete with 6 feet of parallel silk cord and swivel attachment plug. ..... List $26.50 **$38.60**

PORTABLE METAL LAMPS.

A well designed lamp in two shades of art glass, upper panels set in amber and border panels in green, overlaid in artistic lattice design. Beautifully embossed square metal base

Net Each

NO. E280—Height 25 inches; diameter of shade 18 inches. Polychrome finish; two pull chain sockets, furnished complete with 6 feet of silk parallel cord and swivel attachment plug . . . . . List $28.50 $41.10

Original handsome design. Fluted base and 8-paneled amber glass shade overlaid metal in filigree. Net Each

NO. E270—Height 24 in., diam. of shade 17 in.; Icynian bronze finish; 2 pull chain sockets; furnished complete with 6 ft. of silk parallel cord and swivel attachment plug.... List $23.00 $33.70

A beautiful artistic and exclusive design. This is one of our very best numbers

Net Each

NO. E85—Height 24 inches; diameter of shade 18 inches; old gold finish; two pull chain sockets; furnished complete with 6 feet of silk parallel cord and swivel attachment plug . . . . . List $27.00 $41.30

An individual style portable. Heavy cast metal base finely chased in conventional design, supporting a massive appearing, octagon art glass shade that is overlaid with heavy cast metal, in scroll and leaf design

Net Each

NO. E1080—Height 24 inches; diameter of shade 18 inches; Egyptian bronze finish; furnished complete with 6 feet of silk parallel cord and swivel attachment plug; two pull chain sockets. . . . . List $23.50. Net each $33.00

For Nearly a Century the Store of Service.

LIGHTS FOR SAILING AND STEAM VESSELS

SIDE LIGHTS

FRESNAL GLASS

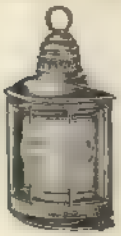


Fig. 33821A

TRIPLEX PATENTED FRESNAL

Fig. 33821B

FRESNAL GLASS

Number		6	7	8	9	10	11
Width of Glass	inches	4¼	5	5	6½	6¾	10
Height " "	"	4¼	5¼	5¼	5¾	6¾	7½
" " Frame	"	6½	7	8¼	9½	10½	12
" Over All	"	9¾	11¼	12	15	17	19
Width of Base	"	6	7	8½	10	11	12
Price, Galv.	per pair	**6.50**	**6.75**	**7.00**	**9.00**	**10.50**	**21.00**
" Brass	"	**9.50**	**9.75**	**11.00**	**16.00**	**18 00**	**30 00**

Nos. 6 and 7 regularly furnished with sprung founts. Extra charge for hinge bottoms.

TRIPLEX PATENTED FRESNAL

Number		106	107	108	109	110	111
Width of Glass	inches	4¼	5	5	6½	6¾	10
Height " "	"	4¼	5¼	5¼	5¾	6¾	7½
" " Frame	"	6½	7	8¼	9½	10½	12
" Over All	"	9¾	11¼	12	15	17	19
Width of Base	"	6	7	8½	10	11	12
Price, Galv.	per pair	**6.75**	**7.00**	**7.25**	**9 50**	**11.00**	**22.00**
" Brass	"	**9.75**	**11.00**	**11 25**	**16 50**	**18.50**	**31.00**

Nos. 106 to 107 regularly furnished with sprung founts. Extra charge made for hinge bottoms. Sidelights can also be furnished with side doors. Prices upon application.

Fig. 33821C

ANCHOR LIGHTS

FRESNAL GLASS

Number		Stern	21	22	22½	23
Diameter of Glass	inches	3	4¾	6	6	8½
Height of Glass	"	4½	4¼	5¼	6½	7
" " Frame	"	8¾	10	12	12½	14
" Over All	"	11	14	18	19	23
Price, Galv.	each	**2 50**	**3 00**	**5 25**	**6 00**	**10 50**
" Brass	"	**4 00**	**5 00**	**10 00**	**10 50**	**15 00**

WITH RUBY OR GREEN GLOBES

Number		Stern	21	22	22½	23
Price, Galv.	each	**3 50**	**4.50**	**7.00**	**10 00**	**13.50**
" Pol. Brass	"	**5.00**	**6.50**	**11.75**	**15.00**	**18.00**

Hand Cars

H18856—LILIPUTIAN HAND CAR—Steel frame and propelling handle, spur gear drive, ¾-inch tires, wheels 6 and 8 inches in diameter; length 26 inches ..... Each 4 25

H18857—HAND CAR—With frame 18x7½ inch seat; steel axles and gears; 8 and 12-inch rubber tired wheels, total length 36 inches ..... Each 5.00

H18858—HAND CAR—With frame 32 inches long, seat 21x10 inches; steel axles and gears; 10 and 14-inch wheels, ¾-inch tire..... Each 6.00

Coasters

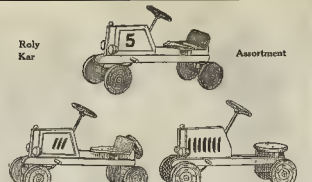
H18876—COASTER—Made of wood, attractively finished in yellow and red; steel axles; length 35 inches, width 25½ inches. Packed ¼ down in crate ..... Per cwt 9.00

H18877—LIBERTY FLYER Made of solid maple, attractively finished, strong steel axle, ¼ dozen in crate, not broken..... Each 2.00

Coaster Wagons

H18906—DEUCE RACER COASTER WAGON—Made of kiln dried wood and metal bearings, attractively enameled in blue; 28 inches long, 13 inches wide. Each in carton ..... Each 1.00

Roly Kar Assortment



H18927—ASSORTMENT WOOD ROLY KARS—3 kinds in crate, bodies 24 to 27 inches long, painted in bright colors; 4 in crate, not broken..... Per nest 9.00

H18825 H18838

H18828—AUTO WITH FOOT PEDALS—Wheels 6 inches; ½-inch rubber tires, body 20 inches long, painted red and decorated in yellow and black; 1-4 dozen in crate, not broken..... Each 6.00

H18899—LADDER TRUCK—Equipped with four ladders, wheels of maple, tubular bearings, steel axles, finished in red enamel with black stripes, length 24 inches, height of seat 12 inches, 1-9 dozen in crate..... Each 6 00

H18830 H18855

H18830—AUTO—Finished in red, black striping, steering wheel enameled in black ..... 7-inch front wheels, 9-inch rear wheels, ¾-inch rubber tires; size of body 12x21 inches ..... Each 6.00

H18855—WIZARD—Finished in combination red and yellow with blue and white striping, steering wheel enameled black, self starter; no dead center, celluloid gear 18-inch black enameled, ¾-inch rubber tires, wheels nickel plated hub caps; size of body 12x30 inches ..... Each 6 55

H18831 H18832

H18831—AUTO—Finished in blue with orange striping, wheel enameled in black, with crank in front, 16-inch front wheel, 12-inch rear wheel, body 17x12 inches with ½ inch rubber tires..... Each 9.50

H18832—AUTO—Finished in red, black striping, steering wheel enameled in black, sea spool with windshield, mud guards, self starter, oil tank on rear, half-circle seat and wooden running board 8½-inch wheels in front, 11½-inch in rear, ¾-inch rubber tire, size of body 19x18 inches. 10.40

Wheelbarrows

H18908—WHEELBARROWS Made of steel, finished in bright red; size body 8x11 inches with 8-inch wheel, 1 dozen in crate, not broken ..... Per cwt 8 00

H18909—WHEELBARROWS Made of steel, finished in bright red; size of body, 10¼x16 inches, with 9-inch wheel; 1 dozen in crate, not broken 8 00

Depot Trucks

H18872—DEPOT TRUCK—Made of metal and wood handle; parts enameled blue; length 24 inches, width 16½ inches, height 14 inches, not broken 4.50

H18873—DEPOT TRUCK—With detachable steel box, made of steel, enameled blue, wood handle, length 24 inches, width 16½ inches, size of box 12x17½ inches; 1 dozen in crate, not broken.. Per doz. 9 00

Skudder Car

H18903—SKUDDER CAR—Propelled entirely by the weight of the rider; strong steel frame, painted red; 10 and 12-inch wire wheels with rubber tires and ball bearings; steel steering post with 5-inch automobile steering wheel; seat 10 inches, by the use of which the rider standing on the sliding board and throwing the weight of the body first upon one foot and then upon the other, sliding board journaled in brass, covered with white rubber mat, giving the rider a sure footing..... Each 5 72

Steel Express Wagon

"Toledo" all wrought steel gear wagon, body headed, top and bottom band iron inbed, tinned wheels, "C" plain steel tires

H18836—6x18 inches, 6 and 6-inch wheels, 1-6 dozen in crate 13.25

H18837—11x32 inches, 8 and 12-inch wheels, 1-8 dozen in crate 16.35

H18838—12x34 inches 10 and 16-inch wheels, 1-6 dozen in crate 24.00

H18839—14x39 inches, 11 and 15-inch wheels, 1-6 dozen in crate..29.80

"Toddler" Toy

H18922—HOBBIE TOD OLDE Styling—Body is padded and beautifully upholstered in real dapple gray horse and red hose, height of saddle 17½ inches 1 8 dozen in carton..... Each 2 19

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

LITTLE GIANT

PORTABLE ELECTRIC DRILLS

Little Giant Portable Electric Drills for drilling through wood or metal. Equipped with high quality steel stub-tooth gears, ball bearings of the best grade, non-arcing control switch, cable and safety attachments.

No. 0B—Little Giant Universal Electric Drill.

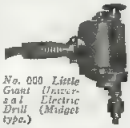
New uses for Little Giant Portable Electric Drills are discovered daily in railway and machine shops, shipyards, boiler and tank works everywhere. A wide variety of sizes in A.C., D.C., or "Universal" types, provides a selection to meet any requirement.

Little Giants are easily moved from place to place and may be operated in difficult positions and angles. Wherever there is drilling to be done they may be attached to any current outlet and put quickly to work.

Unusual pulling power—low temperature rise in heavy, steady service—economy of operation—easy control—accessibility for inspection and maintenance are a few "Little Giant" features of superiority.

LITTLE GIANT DRILLING STAND.—Little Giant Portable Electric Drills may be quickly converted into an accurate, sensitive drill press by clamping them into a Little Giant Drilling Stand. This simple, rugged device makes Little Giant Drills of twofold value.

Ask for bulletins on Little Giant Electric Drills and Drilling Stands.



No. 000 Little Giant Universal Electric Drill (Midget type.)

LITTLE GIANT

PORTABLE ELECTRIC GRINDERS

Little Giant Electric Grinders clean and grind properly, speedily and economically. They are built in portable types and as illustrated below, for lathe use.

Little Giant Portable Electric Grinder.

In the portable types, used widely for cleaning castings, grinding rail joints, etc., the trigger control, method of attaching the cable and the perfect balance in construction enables even inexperienced workmen to handle them with comfort in any position.

Little Giant Electric Precision Grinders are readily convertible from one type to another for either external or internal precision grinding. Their construction permits the emery wheel to be used down to a small diameter and provides ample clearance for the grinder back of the lathe tail-stock.

Little Giant Electric Grinders are also available in tool-post and bench types.

Little Giant Portable and Precision Grinders are in various sizes, A.C., D.C., and "Universal" types. Ask for bulletins.

No. 6. Little Giant Precision Grinder with External Arbor.

Chicago Pneumatic Tool Company

For Sales and Service Branches, See Address Section

Chicago Pneumatic Building

6 East 44th St. New York, U. S. A.

BOYER

"The World's Standard Pneumatic Hammer"

for

Riveting—Chipping—Scaling

Calking Flue Beading

Boyer No. 8a Riveting Hammer, 8" stroke; capacity up to 1⅛" hot rivets.

Boyer Riveting Hammers are built in a variety of standard sizes with capacities for driving up to 1¼-inch rivets. Prompt delivery on all sizes from branch stocks.

Boyer Chipping Hammer. BK-2 type used for heavy chipping and heavy calking work.

Boyer and Keller Chipping Hammers are made in a variety of sizes for light riveting and light, medium and heavy chipping, calking and scaling work. They embody the same high standards of workmanship and materials as Boyer Riveting Hammers. Prompt delivery from branch stocks.

LITTLE GIANT

AIR DRILLS

Little Giant No. 2 Non-Reversible Air Drill

Little Giant Portable Air Drills are of the balanced piston type and consist of four single-acting cylinders arranged in pairs. Full-type ball bearings are used. A patented toggle construction with a RENEWABLE bearing quickly replaced when worn, is a recent added feature. More than drills—Little Giants are widely used for reaming, tapping, screw-setting, wood boring and numerous other drilling operations.

Ask for bulletins descriptive of these and other Chicago Pneumatic Products

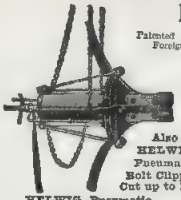
Chicago Pneumatic Tool Company

6 E. 44th St., New York, U. S. A.

For Sales and Service Branches, See Address Section

Depend upon CHICAGO PNEUMATIC *that Name*

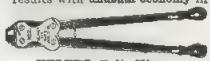
HELWIG MFG. CO., St. Paul, Minn., U. S. A.



Patented in U. S. and Foreign Countries.

HELWIG TRADE MARK Reg.

HELWIG TOOLS effect unique, new and highly satisfactory results with unusual economy in Power, Time and Labor.



HELWIG Bolt Clippers Cut close to work. Capacities up to ⅞ inch

HELWIG Portable Pneumatic Grinder
HELWIG Monkey Wrenches, etc.
HELWIG Portable Pneumatic Shears
HELWIG Punches and Button Presses

HELWIG Pneumatic Hammers and Air Hammer Drills
Powerful, Fast Cutting Speed: Economical; Light handle. Easy on operator.

HELWIG Self-feeding Flue Expanders

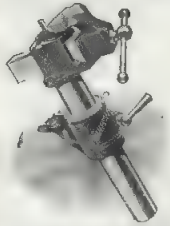
Drop Forgings

Also HELWIG Pneumatic Bolt Clippers Cut up to 1 in.

HELWIG Pneumatic Staybolt Clipper
Cuts Bolts up to 1¾ in. Ends square ready for riveting, and of any length without injury to bolt or sheet. Averages 300 an hour

HELWIG Air Motors Reversible
Indispensable in confined quarters. Valveless. Two-cylinders only—double-acting, effect remarkable and economical power. Hinged casing. Gear-driven spindle insures steady rotation.

"Champion" Expanding Mandrels



also

Toolholders
Emery Wheel Dressers and Cutters
Shop Equipment
Power Hack Saws

Champion Universal Vise also Machinist Vises

THE WESTERN TOOL & MFG. CO.
SPRINGFIELD OHIO

QUALITY BIRKLE SERVICE MOTOR PULLEYS

Cast Iron Motor Pulleys 1½ to 12" Diameter, Motor Rails, and Flexible Couplings shipped within 24 hours after receipt of order.

Phones Main 754-755
126-128 S. Clinton St.
Birkle Machine Works
CHICAGO

All Kinds of Drop Forgings
Drop Forged Wrenches and Pliers
Send us prints for estimate
Prompt Service—High Grade Work
Reasonable Prices
Catalog on request
Lakeside Forge Co.
Erie, Pa.

For Nearly a Century the Store of Service.

TORCHES AND LAMPS

No. 26

COPPER-PLATED STEEL INSPECTORS' AND LOCOMOTIVE TORCHES

Fig. 655A

Nos. 27 AND 28

Fig. 655B

		26	27	28
Number				
Diameter	inches	2	4 1/8	5 1/4
Height	"	15	41/2	4 1/2
Price, with Brass Cap and Tube	per dozen	12 00	12 00	15 00

SEAMLESS STEEL LAMP

Fig. 655D

MALLEABLE IRON HAND LAMP

Fig 655E

STEEL JACKET LAMP

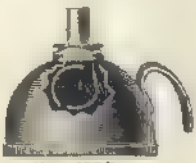


Fig. 655C

COPPER-PLATED JACKET LAMPS

		20	20 1/2	21
Number				
Diameter	inches	3 3/8	3 3/4	4 1/8
Capacity	pints	1/4	1/2	1 1/2
Price	per dozen	6.00	9.00	12.00

SEAMLESS COPPER-PLATED STEEL LAMPS

		22	23	24
Number				
Diameter	inches	3 1/4	4	4 7/8
Capacity	pints	1	1 1/2	2 1/4
Price	per dozen	9 00	12 00	15 00

MALLEABLE IRON HAND LAMPS

Price, with Oil Tubes, Kerosene Screw	per dozen 5.00

OIL TANKS, OIL AND ASH CANS, ETC.

OIL TANK

Fig. 7504A

WOOD JACKETED OIL CANS

Fig. 7504B

GALVANIZED SELF CLOSING WASTE CAN

Fig. 7504C

OIL TANKS

Capacity, gallons	60
Price, Oil Tanks, each	

Oil cans are of galvanized iron, japanned and decorated, and have wood bottom, stationary drop pan and removable pump.

WOOD JACKETED OIL CANS

Capacity, gallons	1	2	3	5	10
Price, Flat or Cone Top, each					

GALVANIZED OILY WASTE CANS

Number	1	2	3	4	5	6	7	8
Size...inches	11¼x15	12x18	13x20	14x22	16x24	18x26	20x20	24x36
Price...per dozen								

ASH CANS, WITHOUT COVERS

PLAIN

Fig. 7504D

RIBBED

Fig. 7504E

EXTRA HEAVY HOISTING

Fig. 7504F

Plain, No.	2	2½	3	4	5	6
Ribbed, No.	....	....	170	180	190	200
Hoisting, No.		102½	103	104	105	106
Dimensions, inches	14x15	14x18	15x26	17x26	18x26	20x26
Capacity, gallons	8¾	10	17½	22½	25	31

Prices on above tanks and cans on applications.

Write us Your Requirements for Goods Not Listed.

Mancha Storage Battery Locomotive Co., 1909 So. Kingshighway, St. Louis, Mo. ..... See Advt. Index, Page 7

Feeding time was a serious affair when four-legged critters were used for hauling cars around plants and in mines. You could almost see dollar bills disappearing along with the oats—and it went on just the same on holidays, Sundays and idle days. But Mancha's Electric Mule has changed all that—fifty cents worth of "juice" is all the nourishment required for a big day's work—on idle days she fasts

Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa. ..... See Advt. Index, Page 7
Whitcomb Co., Geo. D., Rochelle, Ill. See Page 7

Logs, Gas

Cassell, Jacob C., Philadelphia, Pa.
Crane Co., Wm. M., New York.
Gleason Mfg. Co., E. P., New York.
Jackson & Bro., Inc., Edwin A., New York.
Superior Mfg. Co., Pittsburgh, Pa.

Logs, Veneer (Poplar, Oak & Gum)

Cook Tie & Pole Company, Philadelphia, Pa.

Loofahs (For Filtering)

American Sponge & Chamois Co., Inc., Amsco Bldg., 47 Ann St., New York.
Lindner Sponge & Chamois Co., David J., 66 Gold St., New York.
Williams & Wells Co., 250 Fulton St., New York. ..... See Advt. Index, Page 7

Looking Glasses See Mirrors, Plain and Plate Glass

Loom, Flexible, Non-Metallic

National Metal Molding Co., 1110 Fulton Bldg., Pittsburgh, Pa. ..... See Page 7

Looms

Atkinson, Haserick & Co., Boston, Mass.
Crompton & Knowles Loom Works, Worcester, Mass. (All Kinds.)
Draper Corp., Hopedale, Mass.
Eastwood Co., Benj., Paterson, N. J. (Silk.)
Hopedale Mfg. Co., Milford, Mass.
Insinger Co., The, Philadelphia, Pa.
Mason Machine Wks., Taunton, Mass
Modern Loom Works, Paterson, N. J.
Royle & Sons, John, Paterson, N. J.
Stafford Co., The, Readville, Mass

Loopers and Seamers

Nye & Tredick Co., Philadelphia, Pa.
Tillinghast Supply & Mach. Co., Boston, Mass.

Loops, Brass, Snap and Strap

Attwood Brass Wks., Grand Rapids, Mich.
Cowles & Co., C., New Haven, Conn
Detroit Socket Co., Detroit, Mich
Eberhard Mfg. Co., Cleveland, O.
North & Judd Mfg. Co., New Britain, Conn.
Waterbury Button Company, Inc., Waterbury, Conn.

Loose Leaf Binders See Binders, Loose Leaf

Loose Leaf Manufacturers

Consumers' Loose Leaf Mfg. Co., 416 S. Dearborn St., Chicago. (Binders.)
Tallman, Robbins & Co., Chicago
Tengwall Company, The, 2954 Sheffield Ave., Chicago.
Manufacturers of Loose-Leaf Accounting Forms, Binders and Ledgers.

Louvres

American Rolling Mill Co., Middletown, O.
Lupton's Sons Co., David, Janney and Agate Sts., Philadelphia, Pa. ..... See Page 7
Waldmire Louvres
Republic Street Iron Wks. Co., Cleveland, O
Robertson Co., H. H., Pittsburgh, Pa.

Lubricants, Air Compressor and Air Pump

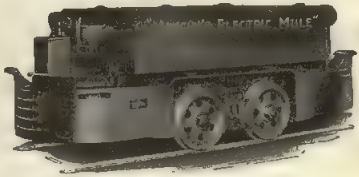
Emery Mfg. Co., 42 Main St., Bradford, Pa.
Empire Oil & Grease Co., Oil Exchange Bldg., Oil City, Pa.
Galena-Signal Oil Company, Franklin, Pa. ..... See Advt. Index, Page 7
Sole manufacturers of Galena Air Compressor Oils in Regular, Light, Medium, Heavy, Extra Heavy and Special Extra Heavy.
Ingersoll-Rand Co., New York ..... See Page 7
New York & New Jersey Lubricant Co., New York.
Standard Oil Company (Indiana), Chicago.
Universal Lubricating Co., Cleveland, O
Waverly Oil Works Co., Pittsburgh, Pa.

MANCHA
"Electric Mule"

Storage Battery Locomotives
2½ to 6½ Tons

"Armored Tank"—30 to 33 Inches High.

Will Run Over Any Track
Requires No Trolley or Bonding
Charges at Night
Runs All Day
One Displaces Many Men and Animals
Reliable and Cheap to Operate



"Standard"—37 and 46 Inches High.

Modern practice is distinctly toward mechanical haulage. The Storage Battery Locomotive possesses none of the disadvantages of the other systems and most of their advantages. It is the last word in efficient and flexible haulage, both for the mine and quarry, and the factory and yard. We show VERY SATISFACTORY savings in operating and overhead costs. We invariably speed up production.

The design and workmanship on our locomotives is unusually high grade. Our aim has been for RELIABILITY, SIMPLICITY and CAPACITY. We have attained these to a high degree.

Write for details.

MANCHA STORAGE BATTERY LOCOMOTIVE CO.

1911 South Kingshighway, St. Louis, U. S. A.

THE MANDEL-ETTE ONE MINUTE CAMERA

No Plates-No Films-No Dark Room

Takes and finishes original post card photographs in one minute without plates or films. No printing or dark room, no experience required. The latest photographic creation. A big money maker at carnivals, fairs, picnics, etc. With this camera you can finish three perfect photos in one minute. You merely press the button, the camera does the rest.

Dimensions are about 4½ inches high, 6 inches long and 4 inches wide.

The lens is a special, high grade, imported, universal focus lens. The camera is semi-automatic and consists of a magazine into which 15 or 50 post cards may be loaded at one time.

No. 99J1. SPECIAL INTRODUCTORY OFFER. We will ship our special outfit consisting of Mandel-ette camera, 1 package of 16 post cards, 1 can developer for 5.25

Additional supplies can be had at the following prices:

No. 99J4. Positive post cards, size 2½x3¼ in., 50 in box. Per box 1.00

No. 99J5. Three-in-One Liquid Developer. Per can ..... .25

No. 99J6. Graduates, for measuring developer. Each ..... .25

No. 99J7. Tripods. Each 1.30

EASTMAN FOLDING CARTRIDGE PREMOS CAMERAS

No. 99J2. A New Model of Roll Film Camera, made upon graceful lines with rounded ends, light, thin, compact and dependable in the fullest sense.

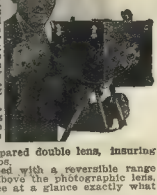
This camera uses Eastman N. C. film cartridges, which can be loaded, unloaded and developed in full daylight. No dark room is necessary. Photography with the Cartridge Premo is by daylight-all-the-way.

These cameras are made by the Eastman Kodak Co. and each one is carefully equipped and tested to perfectly perform the work for which it is intended.

Each 5.50

THE MANDEL No. 3 POST CARD MACHINE

Capacity, 3 Cards per Minute



The Mandel No. 3 Post Card Machine is a complete six-pound portable post card gallery. Its dimensions are 1½ in. high, 14½ in. long and 7½ in. wide. In this small area is embodied everything necessary to take, finish and deliver photo post cards right on the spot, at the rate of 3 per minute. The machine has a capacity of holding 200 post cards, which are loaded into it in a few seconds.

The holder is reversible for making pictures on the broad side of the card, adaptable for group photos.

It has a specially prepared double lens, insuring brilliant and sharp photos.

The camera is equipped with a reversible range finder, located directly above the photographic lens, which enables you to see at a glance exactly what you are snapping.

The case is covered with the best grade of leatherette and is handsomely finished with heavy nickel plated trimmings.

No. 99J3. Mandel Post Card Machine..... 30.00

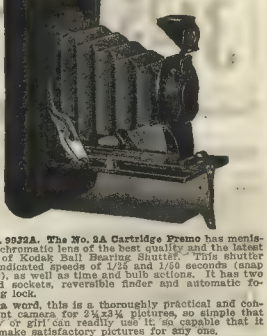
No. 99J8. Tripod 2.50

No. 99J9. Positive Post Cards (3x4½ in.). Per package of 100..... 2.50

No. 99J10. Graduate (for measuring developer) ..... .25

No. 99J11. Wonder Developer (enough for 64 oz. of solution) ..... .50

EASTMAN CAMERAS



No. 99J2A. The No. 2A Cartridge Premo has meniscus achromatic lens of the best quality and the latest type of Kodak Ball Bearing Shutter. This shutter has indicated speeds of 1/25 and 1/50 seconds (snap shots), as well as time and bulb actions. It has two tripod sockets, reversible finder and automatic focusing lock.

In a word, this is a thoroughly practical and convenient camera for 2½x3¼ pictures, so simple that a boy or girl can readily use it, so capable that it will make satisfactory pictures for any one.

Each 6.25

"Miles Cheaper"

QUAKER CORDS

Are Trusty Friends

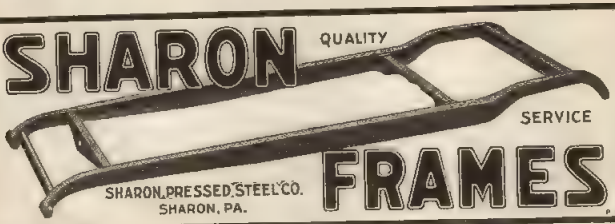
Our selling plan will interest every live dealer

QUAKER CITY RUBBER COMPANY

Philadelphia Chicago Pittsburgh New York

Address all correspondence to CHAS. F. U. KELLY, Director of Sales
Sales Department, 1664 Broadway, New York

SHARON QUALITY SERVICE



SHARON PRESSED STEEL CO.
SHARON, PA.

FRAMES

2 and 5 Ton Capacities

Manley Wrecking Cranes the World's Standard

With this crane you will get all the wrecking business in your territory, and the resultant repair work will be brought to your garage. Your profits will swell instantly.

You hold your customers by giving real service.

The Manley Crane is a 100% Tool—mud, snow, ruts, etc., do not affect it.

There is nothing even approaching it in efficiency.

The Manley Mfg. Co. York, Pa.

SUPERIOR PARTS

Piston Pins Valves

Piston Rings

SUPERIOR PARTS CO. CLEVELAND, OHIO

MASSEY VISES

LIGHTNING GRIP WOODWORKERS' VISES

Fig. 18875A

This vise will outwear and withstand more abuse and will insure a greater saving of time than any other woodworkers' vise.

Three pieces of wood 2, 6 and 12 inches can be fastened between the jaws in ten seconds.

A quarter turn of the handle at any desired opening gives a certain and positive grip.

Vise Number		17	19
Width of Jaw	inches	9	7
Jaws Open	"	12	7
Weight	pounds	47	29
Price	each	12 00	10 00

LIGHTNING GRIP WOODWORKERS' VISES

Fig. 18875B

This vise is equipped with stop in front jaw, otherwise it is the same construction as shown above.

Vise Number		17A	19A
Width of Jaw	inches	9	7
Jaws Open		12	7
Weight	pounds	48	30
Price	each	13 00	11 00

LIGHTNING GRIP PARALLEL BAR VISES

FOR WOODWORKERS

Fig. 18875C

The sliding bars of this vise are supported at their ends by a carrier which slides on the ways of the stationary jaw. This construction keeps the jaws parallel and prevents lost motion laterally.

The Lightning Grip is positive and cannot get out of order

Vise Number		23	24
Width of Jaw	inches	8	10
Jaws Open	"	8	10
Weight	pounds	31	39
Price	each	10 00	12.00

LIGHTNING GRIP PARALLEL BAR VISES

FOR WOODWORKERS

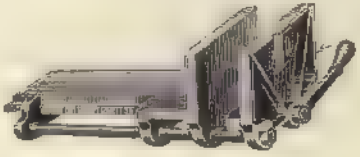


Fig. 18875D

This vise is equipped with stop in front jaw, otherwise the construction is the same as vise shown above.

Vise Number		23A	24A
Width of Jaw	inches	8	10
Jaws Open	"	8	12
Weight	pounds	32	40
Price	each	11.00	13.00

HAND VISES

TELEGRAPH OR HAND VISES

Fig. 1218A

Has loop. Made of extra quality cast steel. Length, 5½ inches.

Price . . . . . per dozen **17.00**

No. 1 HAND VISES

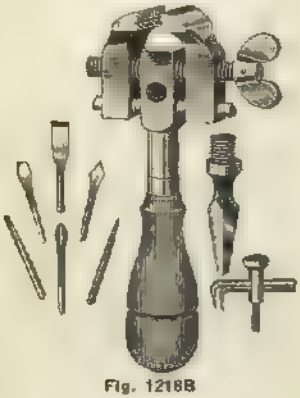


Fig. 1218B

Consists of a strong, well-made hand vise which has detachable hollow rare tropical wood handle with screw cap, containing chisel, screwdriver, countersink, square reamer, brad awl, scratch awl and washer cutter. Vise can be used in a bit brace. Jaws are of forged and tempered steel. Screw of steel. Exposed metal surfaces polished and nickeled.

Length, 6¾ inches; width of jaws, 1¼ inches; jaws open, 1 inch.

Price . . . . . per dozen **63.25**

No. 2 HAND VISES

Fig. 1218C

A high grade forged steel vise, polished and nickeled. Stained hardwood solid handle.

Length, 6¾ inches; width of jaws, 1½ inches; jaws open, 1¼ inches; diameter of screw ½ inch.

Price . . . . . per dozen **56.70**

No. 3 HAND VISES

Fig. 1218D

Ranks high among tools of this type. The jaws are opened by a heavy spring and closed with a thumb nut and screw bolt. The tool is made of solid steel castings and in black finish with polished jaws.

Length, 5 inches, width of jaws, 1½ inches, jaws open, 1½ inches.

Price . . . . . per dozen **21.50**

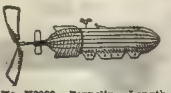
Write us Your Requirements for Goods Not Listed.

THE SHURE WINNER PRICE LIST

Mechanical Toys and Games

Mechanical Toys

No. M3927. Joko, The Galloping Monkey. Made of metal, enameled in colors, propelled by strong spring motor. Consists of monkey sitting on cart which has a swanky movement, driving a dog. A wonderful toy. ½ dozen in box. Per dozen..... 2.00



No. M3930. Zeppelin. Length 8 inches. A splendid reproduction of the real article. Made of metal, enameled in colors, equipped with strong spring motor which operates rear and side propellers. ½ dozen in box.
Per dozen..... 3.00

No. M3937. Scissor Grinder. Made of metal, enameled in colors. Consists of man and grinding wheel, with an emery covered wheel which sends forth sparks when in motion, driven by strong spring motor. ½ dozen in box.
Per dozen 3.25

No. M3931. Auto Bus. Made of metal, enameled in colors, equipped with strong spring motor which propels bus at a rapid speed. The front axle is adjustable which enables the bus to run in a circle or straight. Each in box.
Per dozen 3.25

Pool Table and Player

No. M3928. Pool Table and Player. Made entirely of metal, enameled in colors. Very strong and substantial. By winding the strong spring motor the player shoots the balls into pockets which automatically return to the surface of the table in front of the player's cue. Each in box.
Per dozen 3.25

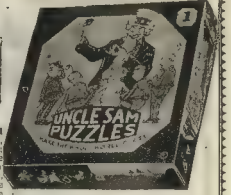
Wild Monkey

No. M291. Wild South American Monkey. The most hideous-looking animal you could imagine. Composition body, hands and feet, movable head, painted features. Long hair, which stands up, spiral wire arms, legs and tail. Complete with U. S. flag or paper fan in hand. One dozen in package.
Per gross, 12.00 | Per dozen. 1.10

Bim Bum Game

No. M160. Bim Bum Game. Is a new and fascinating put-and-take game played by young and old. Size 4x4 inches, with dial and pointer, which is spun by each player. The pointer indicates what the player must do. "Plus" means take out. "Minus" means put in, as indicated on the dial. Full directions with each game. Each in box. Per dozen..... 1.75

Uncle Sam Puzzles



No. M171. Uncle Sam Puzzle. These ever popular puzzles, in the attractive boxes in bright colors, are big sellers wherever shown. As a favor for parties and for other gift and souvenir purposes they offer more than ordinary selling opportunity. Two kinds in each box, with complete directions. Put up in three different combinations. Per dozen boxes..... .85

Bug House Game

No. M162. Bug House Game. Consists of a metal box 1 inch high, 3¼ inches wide and 4 inches long, with glass top, lithographed bottom, which contains a house and three bugs. The object is to imprison the three bugs in the house. A new and captivating game that looks easy, but is very difficult as well as amusing. One dozen in package.

Per gross 9.00
Per dozen ..... .80

SEWING MACHINE MOTORS.

"SEW E-Z."

The Sew E-Z sewing motor is one of the biggest selling time and labor savers that was ever invented. The Sew E-Z will fit and operate perfectly any and all makes of sewing machines. It can be attached without the use of tools, bolts, brackets or straps.

It is equipped with a reversing lever that permits it to run either forward or backwards, thereby being available for use on any and all makes of sewing machines.

When you sell the Sew E-Z you will not have to send a man out to attach it to the sewing machine. You do not have to dismantle the sewing machine or remove any of its parts. Simply take the belt from the hand wheel and let it hang loosely.

With the Sew E-Z you can sew a stitch at a time or 800 a minute. The speed regulation is at the will of the operator at all times. The Sew E-Z is broadly guaranteed against electrical and mechanical defects.

		Net each
NO. 18	1/6 H. P., 110 V. A. C., complete ready to attach....List each $18.50	$26.00
	Lots of 3.....	24.00
NO. 19	Same as No. 18 except wound for 32 volt farm lighting current. List each $19.25	27.50
	Lots of 3	25.50

ATTACHMENTS FOR USE WITH "SEW E-Z" MOTOR.

AS A CREAM WHIPPER

AS A FAN

AS A BUFFER

AS A GRINDER

		Net Each
NO. 28	Cream whipper attachment.....List each $5.00	$7.50
NO. 29	Fan attachment, easily attached without screws, 6 inch high speed.....List each $2.50	3.50
NO. 30	Combination buffer and grinder, attachment for polishing silverware and grinding kitchen cutlery, etc. .....List each $1.50	2.50

ELECTRIC FANS.

"MENOMINEE."

The 1920 line of Menominee Fans is second to none on the market, with reference to quality, workmanship, material, beauty of design and finish, and last qualities. This is one of the oldest and best established lines on the market, and most of the users in this territory are familiar with this brand

GUARANTEE.

Every Menominee Fan is guaranteed to give absolute satisfactory service, and in the event that it fails to do so, it is our fan, not yours. In other words, if a customer returns to the dealer a Menominee Fan, with the claim that there is anything wrong with it, the dealer is to replace it free of charge without question, and return it to us, transportation charges collect, for full credit, or replacement free of charge with a new fan

FINISH.

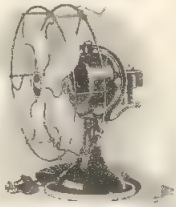
All fans are stamped steel construction, finished in jet black, except the blades which are brass. All blades are bent so as to direct a greater current of air.

Everyone who comes in contact with these fans this year are bound to be highly pleased with them.

110 VOLT—NON-OSCILLATING.

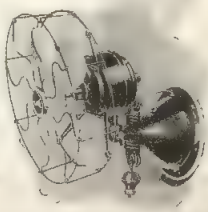
		Net Each
NO. 500	9 inch, 4 blade, single speed, non oscillating, 110 volt A. C., all black except brass blades.....List $12.00	$18.00
NO. 510	9 inch, 4 blade, 3 speed, non-oscillating, 110 volt, all black except brass blades.....List $14.00	21.00
NO. 300	12 inch, 4 blade, 3 speed, non-oscillating, 110 volt A. C., all black except brass blades.....List $27.00	40.50

ELECTRIC FANS.



110 VOLT—OSCILLATING.

		Net Each
NO. 560	9 inch, 4 blade, 3 speed, oscillating, all black with brass blades .....List $20.00	$30.00
NO. 350	12 inch, 4 blade, 3 speed, oscillating, all black with brass blades .....List $35.00	52.50
NO. 360	16 inch, 4 blade 3 speed, oscillating, all black with brass blades .....List $40.00	60.00



THIS CUT SHOWS THE COMBINATION DESK AND BRACKET JOINT WHICH IS BUILT INTO EACH MENOMINEE FAN.

ELECTRIC CEILING FANS.

ALTERNATING CURRENT. 110 VOLT 60 CYCLE.

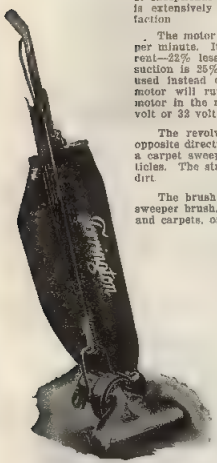
4 blade, 58 inch sweep

A high grade fan, which will prove equal to the work required of it. The metal parts are all finished in black, with mahogany blades, hook, eye and canopy.

		Net Each
NO. 200	.....List $60.00	$96.00

ELECTRIC VACUUM CLEANERS.

TORRINGTON.

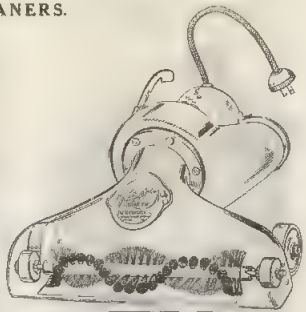


The Torrington Electric Vac is a thoroughly reliable cleaner of exceptional efficiency. It affords a liberal margin of profit—is extensively advertised—sells readily—gives complete satisfaction

The motor is a General Electric motor of 3,000 revolutions per minute. It is very economical in the consumption of current—22% less than U. S. Government specifications—yet the suction is 25% greater Large phosphor bronze bearings are used instead of customary shell brass bearings, so that the motor will run quietly and smoothly without heating. The motor in the regular equipment is 110 volts, 60 cycle, but 220 volt or 32 volt motors can also be furnished

The revolving brush in the nozzle, which rotates in the opposite direction to which the cleaner is moving, exactly as in a carpet sweeper, gets all the lint, ravelings and surface particles. The strong suction takes up all the introdden dust and dirt

The brush is not a toy—but a genuine full bristle carpet sweeper brush. It may be adjusted for long or short nap rugs and carpets, or lifted entirely from the floor by a finger touch.



The dust bag is especially manufactured to screen all dust and yet permit free passage of air. There are over 550 square inches of filtering surface. The nozzle is made of steel rather than aluminum—to prevent "graying" of carpets Rubber-tired wheels drive the brush pulleys, insuring positive action of the brush. All wheels are mounted on roller bearings

Dust bag connection. A quarter turn and the bag is detached. No clamps—no screws—no trouble

The nozzle extension permits cleaning up to the walls and into the corners

Wheel bearings are all outside the suction nozzle—there's no possibility of threads, lint, etc., becoming entangled. Exclusively a Torrington feature

A simple device holds the handle upright

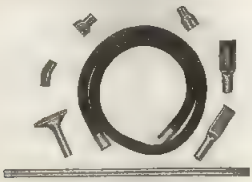
Every machine is equipped with 20 feet of heavily insulated cord and connecting plug

LICENSED UNDER KENNEY PATENT.

BOTTOM VIEW, SHOWING REVOLVING BRUSH.

			Net each
NO. 901—110 volt A. C., complete less attachments	List each $55.00.	Single lots	$75.40
Lots of 6			72.50
Lots of 12			65.60
NO. 903—32 volt for farm lighting current, otherwise exactly the same as No. 901	List each $55.00	Single lots	75.40
Lots of 6			72.50
Lots of 12			65.60

TORRINGTON ATTACHMENTS.



ATTACHMENTS.

Extra attachments furnish means for cleaning walls, shelves, draperies, upholstery, clothing, books, radiators, for drying the hair, etc.

A set of attachments consists of the following Covered Hose 8 feet long for using attachments, Extension Handle for reaching high places; Brush for cleaning clothing, walls, etc; Blower for connecting hose to exhaust of cleaner Tool for cleaning radiators, books, etc., and for blowing, Nozzle—for cleaning draperies, upholstery, etc; Nipple for connecting hose and attachments, Connector for connecting hose with cleaner

			Net per set
NO. 902—Attachment Set 8 pieces. Fit either No. 901 or 903	List $9.75	Single lots	$15.00

Seventeen years of experience in the manufacture of carpet cleaning devices stands back of the Torrington Electric Vac. It is guaranteed in every way, both by the manufacturers and ourselves.

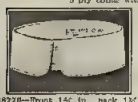
Compare Our Prices on Porcelain Material.

COLLARS LAUNDERED & CELLULOID

Recognized brands of unquestioned reputation in a well chosen range that includes many new and popular styles as well as all the old favorites known and asked for from coast to coast. Your profits on this staple line depends on your choice of styles. We show only those styles that find ready sale all of the time.

"PULL EASY" LAUNDERED COLLARS

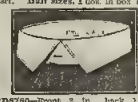
3 ply collar with closely woven surface, patent features at back allow easy adjustment of scarf. Half sizes. 1 Doz. in box solid. SPECIFY SIZES.



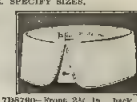
7D8776—Front 1¾ in., back 1¾ in. 14 to 18 ... Doz. $1.50

7D8777—Front 2 in., back 1¾ in. 14 to 17 ... Doz. $1.50

7D8778—Front 2 in., back 1¼ in. 14 to 18 ... Doz. $1.50



7D8780—Front 2 in., back 1½ in. 14 to 18 ... Doz. $1.90

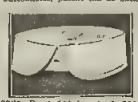


7D8790—Front 2¼ in., back 1¾ in. 14 to 17 ... Doz. $1.10

"SLIP EASY" LAUNDERED COLLARS

Fine count surface ply reinforced buttonhole, patent tab at back allows extra space for easy adjustment of scarf. Quarter sizes. 1 doz. in box, solid SPECIFY SIZES.

7D8785—Front 2 in., back 1¾ in. 14 to 17 ... Doz. $2.05



7D8905—Front 1¾ in., back 1¾ in. 14 to 17 ... Doz. $2.05

7D8706—Front 2¼ in., back 2 in. 14 to 17 ... Doz. $2.05

7D8783—Front 2½ in., back 1¾ in. 14 to 17 ... Doz. $2.05

7D8786—Front 2 in., back 1¾ in. 14 to 17 ... Doz. $2.05

7D8787—Front 2 in., back 1¾ in. 14 to 17 ... Doz. $2.05

7D8788—Front 2 in., back 1¾ in. 14 to 17 ... Doz. $2.05

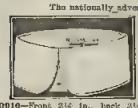
7D8782—Front 2¼ in., back 1¾ in. 14 to 17 ... Doz. $2.05

7D8808—Front 2 in., back 1¾ in. 14 to 18 ... Doz. $2.05

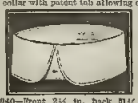
7D8786—Front 1¾ in., back 1¾ in. 14 to 18 ... Doz. $2.05

"SLIDEWELL" LAUNDERED COLLARS

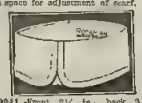
The nationally advertised collar with patent tab allowing extra space for adjustment of scarf. Quarter sizes. 1 doz. in box, solid SPECIFY SIZES.



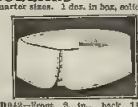
7D8810—Front 2¼ in., back 2¼ in. 14 to 19½ ... Doz. $2.05



7D8840—Front 2½ in., back 2¼ in. 13½ to 18 ... Doz. $2.05

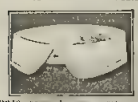


7D8841—Front 2½ in., back 2 in. 13½ to 17 ... Doz. $2.05



7D8842—Front 2 in., back 1¾ in. 13½ to 18 ... Doz. $2.05

7D8844—Front 2½ in., back 1¾ in. 14 to 17 ... Doz. $2.05



7D8816—Front 2 in., back 1¾ in. 14 to 17 ... $2.05

7D8817—Front 2 in., back 1¾ in. ... $2.05

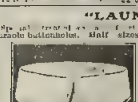
7D8903—Front 2¼ in., back 1¾ in. ... Doz. $2.05

7D8901—Front 2 in., back 1¾ in. ... Doz. $2.05

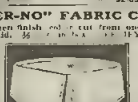
7D8845—Front 2 in., back 1¾ in. 14 to 17 ... Doz. $2.05

"LAUNDER-NO" FABRIC COLLARS

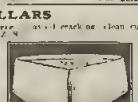
Linen finish collar cut from one piece, and will crack no clean cut buttonhole buttonholes. Half sizes, solid. ... SPECIFY SIZES.



7D306—Front 2 in., back 1¼ in. ... $3.10



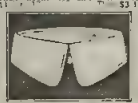
7D301—Front 2½ in., back 1¾ in. ... $3.10



7D303—Front 3½ in., back 1¾ in. ... $3.10

7D311—Front 2½ in., back 1¾ in. 14 to 18 ... $3.10

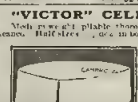
7D304—Front 2 in., back 1¾ in. 14 to 18 ... Doz. $3.10



7D305—Front 3 in., back 1¾ in. 14 to 18 ... Doz. $3.10

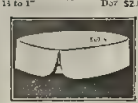
"VICTOR" CELLULOID COLLARS

Mesh reinforced pliable three ply waterproof white finish easily cleaned. Half sizes. ... SPECIFY SIZES.



7D329—Front 1¾ in., back 1¾ in. 14 to 17 ... Doz. $2.00

7D332—Front 1 in., back 1¼ in. 14 to 17 ... Doz. $2.00



7D334—Front 1¾ in., back 1¼ in. 14 to 18 ... Doz. $2.00

7D346—Front 2 in., back 1¼ in. 14 to 17 ... Doz. $2.00

"Somerset" Laundered Collar

"Slidewell" Brand

One of the favorites from this nationally advertised brand. Don't fail to have a good stock on hand.

7D8840—Front 2½ in. back 1¾ in., hand turned closely woven surface, patent tab for easy adjustment of the Quarter sizes 13½ to 18 sold SPECIFY SIZES. 1 doz. in box

Doz. **$2.05**

"Panama" Laundered Collar

"Slidewell" Brand

This popular number is held in high regard by "well dressed" men the country over. Give it a prominent display.

7D844—Points 2¾ in., front 1¾, back 1¼, hand turned, closely woven surface, patent tab for easy adjustment of the Quarter sizes 14 to 18 solid. SPECIFY SIZES. 1 doz. in box.....Doz. **$2.05**

REVOLVING BOLT AND SCREW CASES.

SCREW CASES.

EXTRAS.

Nos. 1 and 2 Case	List extra
With locking device, without key	$10 00
With locking device, with key	12.00

Nos. 3 and 4 Case.	
With locking device, without key	12 50
With locking device, with key	13 00

Oak Cases.	List each
NO. 1 Oak—Screw case	63 50
NO. 2 Oak - Screw case	70 00
NO. 3 Oak—Screw case	78 00
NO 4 Oak Screw case	85 00

Specify wood desired

Poplar Wood, Cherry Stained.

NO. 1—With 72 drawers, height 33 in., width 21 in., weight 120 lbs. each ..... List each $50 00

NO. 2—With 80 drawers, height 36 in., width 21 in., weight 130 lbs. each ..... List each 56.50

NO. 3—With 88 drawers, height 39 in., width 24 in., weight 134 lbs. each ..... List each 62 00

NO. 4 With 96 drawers, height 42 in., width 25 in., weight 144 lbs. each ..... List each 66 50

Specify wood desired.

Discount 10%, F. O. B. Dayton, Ohio.

BOLT CASES.

Locking Device Extra.	List extra
NO. 5—Case with locking device, without keys	$12 00
NO. 5—Case with locking device, with keys	19.60
NO. 6 Case with locking device, without keys.	12 00
NO 6- Case with locking device, with keys	20.00

Oak Cases.	List each
NO. 5 Oak—	$133 00
NO. 6 Oak	144 50

Specify wood desired

Poplar Wood, Cherry Stained.

NO. 5 -Height 60 in., width 30 in., with 98 drawers, weight 380 lbs. each ..... List each $102 00

NO. 6—Height 65 in., width 30 in., with 104 drawers, weight 400 lbs. each ..... List each 110 50

Specify wood desired.

Discount 10%, F. O. B. Dayton, Ohio.

CAPACITY OF SCREW CASES.

Case No. 1—Made to hold the following size Screws.

One-Half Inch Nos. 3, 4, 5, 6, 7.
Five-Eighths Inch—Nos. 5, 6, 7, 8.
Three-Fourths Inch—Nos. 5, 6, 7, 8, 9.
Seven-Eighths Inch—Nos. 7, 8, 9, 10.
One Inch—Nos. 8, 7, 8, 9, 10, 11, 12, 13, 14.
One and One-Quarter Inches—Nos. 7, 8, 9, 10, 11, 12, 13, 14, 15.
One and One-Half Inches—Nos. 8, 9, 10, 11, 12, 13, 14, 15, 16.
One and Three-Quarters Inches—Nos. 9, 10, 11, 12, 13, 14, 15, 16.
Two Inches—Nos. 10, 11, 12, 13, 14, 15, 16, 17, 18.
Two and One-Half Inches—Nos. 12, 13, 14, 15, 16
Three Inches—Nos. 16, 18, 20, 22.

Case No. 2—Made to hold the following size Screws.

Three-Eighths Inch—Nos. 2, 3, 4.
One-Half Inch—Nos. 3, 4, 5, 6, 7
Five-Eighths Inch—Nos. 4, 5, 6, 7, 8.
Three Fourths Inch—Nos. 4, 5, 6, 7, 8, 9, 10.
Seven-Eighths Inch—Nos. 6, 7, 8, 9, 10, 11.
One Inch—Nos. 6, 7, 8, 9, 10, 11, 12, 13, 14.
One and One-Quarter Inches—Nos. 7, 8, 9, 10, 11, 12, 13, 14, 15.
One and One-Half Inches—Nos. 8, 9, 10, 11, 12, 13, 14, 15, 16.
One and Three-Quarters Inches—Nos. 9, 10, 11, 12, 13, 14, 15, 16, 17.
Two Inches—Nos. 10, 11, 12, 13, 14, 15, 16, 17, 18.
Two and One-Half Inches—Nos. 12, 13, 14, 15, 16.
Three Inches—Nos. 16, 18, 20, 22

Case No. 3—Made to hold the following size Screws.

One-Fourth Inch—Nos. 1, 2.
Three-Eighths Inch—Nos. 2, 3, 4, 5.
One Half Inch Nos. 3, 4, 5, 6, 7.
Five-Eighths Inch—Nos. 4, 5, 6, 7, 8, 9.
Three Fourths Inch—Nos. 4, 5, 6, 7, 8, 9, 10.
Seven Eighths Inch Nos. 6, 7, 8, 9, 10, 11, 12.
One Inch—Nos. 6, 7, 8, 9, 10, 11, 12, 13, 14, 15.
One and One-Quarter Inches—Nos. 7, 8, 9, 10, 11, 12, 13, 14, 15, 16
One and One-Half Inches—Nos. 8, 9, 10, 11, 12, 13, 14 15, 16.
One and Three-Quarters Inches—8, 10, 11, 12, 13, 14, 15, 16, 17, 18.
Two Inches—Nos. 10, 11, 12, 13, 14, 15, 16, 17, 18.
Two and One-Half Inches—Nos. 12, 13, 14, 15, 16.
Three Inches—Nos. 16, 18, 20, 22.

Case No. 4—Made to hold the following size Screws.

One-Fourth Inch Nos. 1, 2.
Three-Eighths Inch—Nos. 2, 3, 4, 5, 6.
One-Half Inch—Nos. 3, 4, 5, 6, 7, 8.
Five-Eighths Inch—Nos. 4, 5, 6, 7, 8, 9, 10, 11.
Three-Fourths Inch—Nos. 4, 5, 6, 7, 8 9, 10, 11, 12.
Seven-Eighths Inch—Nos. 6, 7, 8, 9, 10, 11, 12.
One Inch—Nos. 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16.
One and One-Quarter Inches—Nos. 7, 8, 9, 10, 11, 12, 13, 14, 15.
One and One-Half Inches—Nos. 8, 9, 10, 11, 12, 13, 14, 15, 16.
One and Three-Quarters Inches—Nos. 9, 10, 11, 12, 13, 14, 15, 16, 17
Two Inches—Nos. 10, 11, 12, 13, 14, 15, 16, 17, 18.
Two and One-Half Inches—Nos. 12, 13, 14, 15, 16.
Three Inches—Nos. 16, 18, 20, 22.
Three and One-Half Inches—Nos. 16, 18, 20

CAPACITY OF BOLT CASES.

Case No. 5 Made to hold the following bolts.

Tire Bolts.

Three-Sixteenths Inch—Nos. 1½, 1½, 1⅝, 2, 2¼, 2½, 2⅝, 3.
One-Fourth Inch—Nos. 1½, 1½, 1⅝, 2, 2¼, 2½, 2⅝, 3.
Five-Sixteenths Inch—Nos. 2, 2¼, 2½.

Carriage Bolts.

One-Fourth Inch Nos. 1½, 1⅝, 2, 2¼, 2½, 2⅝, 3, 3¼, 3½, 4, 4¼, 4½, 4⅝, 5.
Five-Sixteenths Inch—Nos. 1½, 1⅝, 1⅝, 2, 2¼, 2½, 2⅝, 3, 3¼, 3½, 3⅝, 4, 4¼, 4½, 4⅝, 5, 5¼, 5½, 6.
Three-Eighths Inch—Nos 2, 2¼, 2½, 2⅝, 3, 3¼, 3½, 3⅝, 4, 4¼, 4½, 4⅝, 5, 6.
Seven-Sixteenths Inch—Nos 2, 2¼, 3, 3¼, 4, 4¼, 5, 5¼, 6, 6¼, 7, 8, 9, 10.
One-Half Inch —Nos. 2, 2¼, 3, 3¼, 4, 4¼, 5, 5¼, 6, 6¼, 7, 8, 9 10, 11, 12.

Case No. 6—Made to hold the following sizes in addition to case No. 5.

Seven-Sixteenths Inch—Nos. 7½, 8½, 9½.
One-Half Inch —Nos. 7½, 8½, 9½.

EXTRAS.

The Numbers on Bolt and Screw Cases will be changed to suit purchasers, without extra charge.

We can furnish larger sizes if desired.

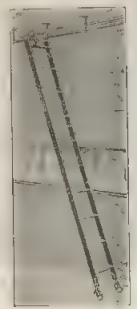
THE MILBRADT ROLLING STORE LADDERS.

MADE TO ORDER ONLY.

Are made of good oak lumber, in the best possible workmanlike manner, and are finished in any color that may be desired and shipped complete and ready to install for use and guaranteed in every respect to be perfect and the best ladder on the market.

No. 1

No. 2



No. 15 Oak and No. 15 Pine.

Are the strongest, neatest and easiest running ladders on the market. Every system guaranteed satisfactory.

They are made to order, any shape and length necessary to fit shelving, of good oak lumber, in the best possible workmanlike manner, finished in first-class style, shipped complete and ready for use and guaranteed in every respect to be perfect and satisfactory.

BENT LADDER NO. 1.

Runs on steel track which is fastened to shelving near top; has rubber rollers attached near the lower end that run against the edge of base shelf. This ladder is the best for all around purposes where shelving is reasonably strong. Width 17½ in., side pieces 3 in. wide, steps 3¼ in. wide, top 9 in wide. Average shipping weight 50 lbs. each.

BENT LADDER NO. 2.

Is intended for shelving that is not very strong as most of the weight of ladder and operator rests on the floor. This ladder runs on a hardwood track fastened to shelving near the top to guide it and has attached at the bottom cushion tired wheels that run on the floor, but no track is used on the floor. Width 17½ in., side pieces 3 in. wide, steps 3¼ in. wide, top shelf 9 in. wide. Average shipping weight 50 lbs.

To order laddars as Nos. 1 and 2 give the exact height from floor to top of base shelf, the exact width or projection of base shelf and then the exact height from the top of base shelf to which track is to be fastened, and the track should be fastened to a shelf that is about 3 ft. down from the top.

HOW TO ORDER STEEL TRACK FOR LADDER NO. 1.

If track is to be longer than 18 ft., two or more lengths are joined together and as joints ought to meet over brackets it is therefore important that measurements are sent us as follows: First, give the entire length of each line of shelving; second, measure from one end of shelving to the center of the upright that is nearest to but inside of 18 ft. Then, again, measure from the center of the upright to the center of next upright that is nearest to but inside of 18 ft. and so continue to other end of shelving.

For regular steel track the brackets cannot be more than 4 ft. apart. Where uprights are more than 4 ft. apart it is necessary to use extra strong steel track.

HOW TO ORDER WOOD TRACK FOR LADDER NO. 2.

To order wood track for Ladder No. 2 it is only necessary to state the number of feet required.

TROLLEY LADDER NO. 15.

Has a suitable fixture with wheels at the top that run on a track fastened to ceiling. It also has attached at the bottom cushion tired wheels that run on the floor. This ladder is very strongly built and is specially adapted for hardware stores or any place of business where heavy goods are handled. Width 14 in., side pieces 4 in. wide, steps 5 in. wide. Average shipping weight 60 lbs.

To order Trolley Ladder No. 15 it is only necessary to give the exact height from floor to ceiling and the exact length of each line of track wanted.

PRICES.

NO. 1—Bent Ladder, made of oak, natural finish, complete with fixtures ..... Net each	$36.00
NO. 1R—Regular steel track, complete with brackets and screws, ... Net per foot	.70
NO. 2 Bent Ladder, made of oak, natural finish, complete with fixtures ..... Net each	36 00
NO. 2T Suitable hardwood track for Ladder No. 2, including filler strip and screws ..... Net per foot	.50
NO. 15 OAK Trolley Ladder, made of oak, complete with fixtures... ..... Net each	36.00
NO. 15 PINE—Trolley Ladder, made of pine, complete with fixtures. ..... Net each	32.00
NO. 15T—Steel trolley track, complete with brackets and lag screws ..... Net per foot	.70
For all Special Colors, per ladder ..... Net extra	2.00
Ladders made of birch lumber, finished Mahogany, per ladder... ..... Net extra	4.00

We charge $1.00 net extra per foot for each foot or fraction thereof, when ladders similar to No. 1 or 2 are required to be higher than 10 feet above base shelf

Where trolley ladders are required for a ceiling higher than 16 ft., we charge $1.00 for each extra foot or fraction thereof.

CURVE TRACK LADDERS.

We do not recommend that rolling ladders be made to run on curve track. However, if absolutely necessary, we can furnish them for that purpose and where ladders similar to No 1 or 2 are wanted to run on curve track we charge $3.00 net extra per ladder for the special fixtures required, and where trolley ladders No. 15 are required to run on curve track, we charge $6.00 net extra per ladder for the special fixtures required and $3 00 net extra for each curve in steel track used either for ladders similar to No. 1 or trolley ladders No. 15 and $4.00 net extra for each curve in wood track used for ladders No. 2 or 10.

F. O. B. ST. LOUIS, MO.

"PAGOMA" signifies the very highest grade, at the lowest price commensurate with quality.

MILLERS FALLS FRET SAWS

No. 387 MODEL

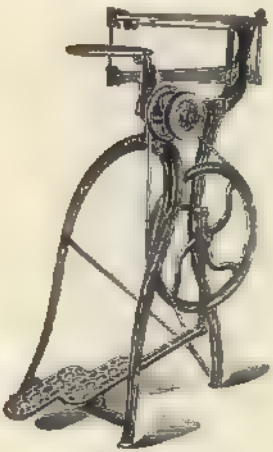


Fig. 26823A

No. 2 ROGERS MODEL

Fig. 26823B

No. 387 MODEL

A fret machine is much more convenient to use than the hand frame, and No 387 machine illustrated is among the most popular models

It is a well balanced, easy running machine with a heavy drive wheel, giving it power and two balance wheels, one each of iron and emery, adding steadiness to the motion. The arms are hung in the middle of their supporting casting to give free action and are adjustable so they may be kept parallel There are adjustable clamps on the emery wheel, capable of embracing other sizes of emery and buffing wheels grindstones and the like

Equipped with nickeled tilting saw table, automatic dust blower, lever saw clamps, and adjustable saw guide Furnished with each machine are 12 saw blades, 1 wrench, 3 sheets of designs, impression paper and 3 drill points

Frame of machine is of iron castings, japanned black with ornamental red stripes; arbors are of steel

Depth of Arm	inches	18
Height of Machine	"	37
Weight, Net	pounds	40
" Boxed	"	60
Price	each	16.00

No. 2 ROGERS MODEL

A feature of this machine is the type of adjustable lever saw clamps, which have a hinged jaw This overcomes disagreeable raking overthrow of the saw blades and prevents breakage of blades A jointed stretcher rod permits free action of the arms The bearings to the latter are carefully adjusted.

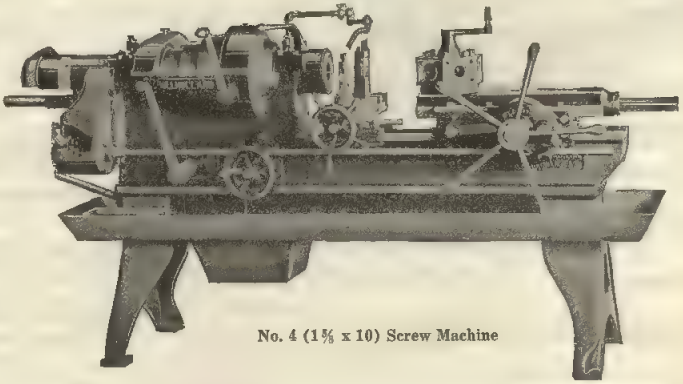
Equipped with drilling attachment on the right side of balance wheel, and automatic dust blower The parts are secured to each other by nicely fitting screws and bolts

12 saw blades, 1 wrench, 3 sheets of designs impression paper and 3 drill points are furnished with this machine Iron castings, japanned black with red and gilt stripes; steel arbors; arm and pitman of best selected ash wood.

Height	inches	35
Weight, Net	pounds	28
" Boxed	"	45
Price, No 2, with Nickeled Tilting Table and Emery Balance Wheel	each	12.50

Write us Your Requirements for Goods Not Listed.

TURRET
MILLHOLLAND
LATHES



No. 4 (1⅝ x 10) Screw Machine

Batteries of

Millholland Turret Lathes and Screw Machines

Are in Operation in Many of the Largest Plants in the United States and Abroad

THERE MUST BE A REASON

Millholland Machine Company

Indianapolis, Indiana

Agents in all principal buying centers.

New York Office: 17 West 42nd St., Room 328

SHURE WINNER — THE PRICE LIST

Talking Machine -- Tone Arm -- Needles

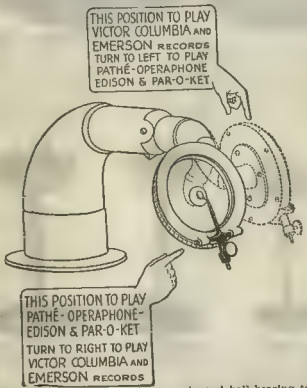
Baby Model Talking Machine

Plays Any 10-in. Record

Universal Tone Arm

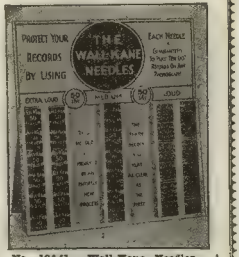
Model A-1 Talking Machine. A wonderful little machine, that has proven to be practicable in every respect. A highly finished mahogany cabinet 10½ inches long, 9 inches wide and 5 inches high and weighs only 6½ pounds. Small and light enough to be carried in an ordinary handbag. This feature of the machine enables one to have music wherever he goes. Equipped with a strong motor and will play any 10-inch record through with one winding. Has a universal tone arm which plays every make record. Each machine is packed in corrugated box.
Each ..... 7.25 | In case lots of 12..... 7.00

Universal Tone Arm


THIS POSITION TO PLAY VICTOR COLUMBIA AND EMERSON RECORDS
TURN TO LEFT TO PLAY PATHÉ-OPERAPHONE EDISON & PAR-O-KET
THIS POSITION TO PLAY PATHÉ-OPERAPHONE EDISON & PAR-O-KET
TURN TO RIGHT TO PLAY VICTOR COLUMBIA AND EMERSON RECORDS

No. 12A37. Tone Arm. A new universal ball bearing tone arm that produces perfectly the correct tone of every record. Noted for its clear and natural reproduction. It carries a very high polish and its lines are beautiful. It is universal in every way, simply turn the sound box on a swivel joint and it will play any make record. This arm can be installed into any machine. All our large machines are equipped with this style tone arm. Length 8⅝ inches. Packed each in a carton
Each 6.00

Wall Kane Needles


PROTECT YOUR RECORDS BY USING
THE WALL-KANE NEEDLES
EACH NEEDLE GUARANTEED TO PLAY TEN DIAMOND POINT REPRODUCERS
EXTRA LOUD
LOUD

No. 12A41. Wall-Kane Needles. A specially tempered steel needle coated with a chemical solution in gold finish. Each needle guaranteed to play ten records. Last one will be played as clear and distinct as the first. Packed 50 needles in a package. 100% profit handling Wall-Kane needles.
A metal display stand like illustration contains 60 packages of needles as follows: 24 extra loud, 24 loud and 12 medium tone.
Costs you.... 4.50 | Retails for.... 9.00
These needles are also packed 100 packages of any tone to a carton.
Costs you.... 7.50 | Retails for... 15.00

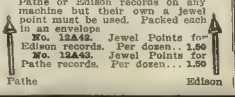
Steel Needles

No. 12A40. Cleartone Phonograph Needles. Made of tempered steel, non-rustible, specially constructed needle points which produce accurate tone to its highest extent. Cleartone needles are made in three tones: soft, medium and loud. 100 needles in a package.
Per 100 ..... .60
No. 12A60. Steel Phonograph Needles. Packed 200 in a package.
Per 1000 ..... .38

JEWEL POINTS

Two popular jewel points which are used by every talking machine owner. To be able to play either Pathe or Edison records on any machine but their own a jewel point must be used. Packed each in an envelope

No. 12A42. Jewel Points for Edison records. Per dozen.. 1.50
No. 12A43. Jewel Points for Pathe records. Per dozen... 1.50



WHOLESALE N. SHURE CO. CHICAGO.

DRESS HATS FINE STRAWS & PANAMAS

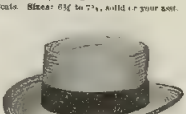
Have the stock on hand to meet the hot weather demand for men's light weight straw and panama hats. Our line is extensive both in variety and range of price. You can find a hat to satisfy every requirement here. All hats are made in our own factory. Order your needs here

MEN'S DRESS STRAWS

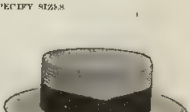
A selected line in the season's newest shapes All with cushioned sweats. Sizes: 6¾ to 7¾, Solid or your asst. SPECIFY SIZES

5A5900—Alpine, imported fine Italian leather wt. braid, nobby alpine shape, 4¼ in. crown, 3 in. brim, 10 ligne colored silk band ½ doz. in box. Doz $9.00

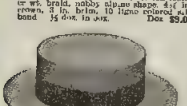
5A5635—Alpine, fine light wt. Java body, clear white bleach, 3 in alpine crown, 2¼ in roll brim, 18 ligne black ribbed band ½ doz. in box Doz $15.00



5A5638—Telescope, fine feather wt. Java braid, clear white bleach, 3¼ in. creased telescope crown, 2¾ in. snap brim, 18 ligne black ribbed band ½ doz. in box Doz $15.00

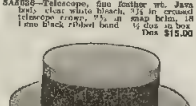


5A5905—Yacht, fine light wt. Java body clear white bleach, navy yacht shape, 3½ in crown, 2½ in. brim, 22 ligne black ribbed band ½ doz. in box Doz $15.00

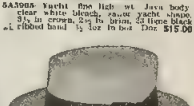


5A5906—Sennit yacht, imported Jap sennit braid, white bleach, sailor yacht shape, 3½ in. crown, 2½ in saw tooth brim, 10 ligne black silk band, satin tip, ½ doz. in box Doz $21.00

5A5907 Sennit yacht, fine Jap sennit braid, clear white bleach, creased stitch as for yacht shape 3¼ in crown 2¼ in roll brim 2 ligne black silk band satin tip ½ doz in box Doz $24.00



5A5908—Sennit yacht, fine imported Jap sennit braid clear white bleach, creased stitch, young men's sailor yacht shape, 3¼ in crown, 2¼ in saw tooth brim, 27 ligne black silk band, satin tip ½ doz in box Doz $24.00

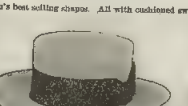


5A5909—Sennit yacht, very fine imported Jap sennit braid clear white bleach, creased stitch as for yacht shape, 3¼ in. crown, 2¼ in. cable edge brim, 2 ligne black silk band, satin tip genuine leather sweat ½ doz in box Doz $27.00

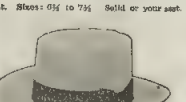
MEN'S FORMOSA PANAMAS TO RETAIL AT $2.00

Four of this season's best selling shapes. All with cushioned sweat. Sizes: 6¾ to 7¾ Solid or your asst. SPECIFY SIZES

5A5918 Alpine, good quality Formosa panama, clear white bleach, 4 in alpine crown, 2½ in snap brim, 19 ligne black silk band ½ doz in box Doz $15.00



5B5924 Telescope, good quality Formosa panama clear white bleach, 3¼ in. telescope crown, 2¼ in snap brim, 19 ligne black silk band ½ doz in box Doz $15.00



5A5922—Optimo, good quality Formosa panama, clear white bleach, 4 in. alpine optimo crown, 2½ in roll brim, 18 ligne black silk band, ½ doz. in box Doz $15.00

5A5923—Yacht, good quality Formosa panama, clear white bleach, navy yacht shape, 3½ in. crown, 2½ in brim, 19 ligne black silk band ½ doz. in box Doz $18.00

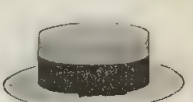
OUR FINEST TOYO PANAMAS TO RETAIL AT $3.00

Selected line of genuine Toyo Jap panamas in four of this season's up-to-date styles. All with genuine leather sweat. Sizes: 6¾ to 7¾. Solid or your asst. SPECIFY SIZES

5A5924—Alpine, fine woven Toyo panama, clear white bleach, 4 in. alpine crown, 2¼ in snap brim, 23 ligne black silk band ½ doz. in box Doz $24.00

5A5925 Telescope, fine woven Toyo panama, clear white bleach, 4 in. telescope crown, 2½ in. snap brim, 23 ligne black silk band ½ doz. in box Doz $24.00

5A5926—Alpine, fine woven Toyo panama, clear white bleach, young men's 3¼ in. alpine crown, 2¼ in. brim, 20 ligne black silk band. ½ doz. in box...Doz $24.00

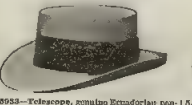


5A5927 Yacht, fine woven Toyo panama clear white bleach, newest sailor yacht shape, 3¼ in. crown, 2¼ in brim 23 ligne black silk band ½ doz. in box Doz $24.00

GENUINE SOUTH AMERICAN PANAMAS TO RETAIL AT $5.00

A selected line of fine woven Ecuadorian bodies in this season's newest styles. Genuine leather sweat. Sizes: 6¾ to 7¾ Solid or your asst. SPECIFY SIZES

5A5932 Alpine, genuine Ecuadorian panama, selected quality fine weave, 5 in alpine crown, 2½ in snap brim, 23 ligne black silk band ½ doz. in box Doz $42.00



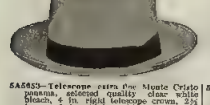
5A5933—Telescope, genuine Ecuadorian panama selected quality clear white bleach, 4 in. telescope crown, 2½ in. snap brim, 20 ligne black silk band. ½ doz. in box. Doz. $42.00

5A5935—Yacht, genuine Ecuadorian panama, select quality, clear white bleach, sailor yacht shape, 3¼ in crown, 2¼ in. brim, 23 ligne black silk band ½ doz in box, ... Doz. $42.00

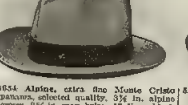
5A5931 Telescope genuine Ecuadorian panama, selected quality, clear white bleach, 3¾ in. rigid telescope crown, 2¼ in. pencil roll brim, 20 ligne black silk band ¼ doz. in box Doz $42.00

GENUINE DE LUXE PANAMAS

Five selected Monte Cristo panamas in four of this season's up-to-date styles. All with genuine leather sweat. Sizes 6¾ to 7¾ Solid or your asst SPECIFY SIZES

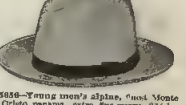


5A5833—Telescope extra fine Monte Cristo panama, selected quality clear white bleach, 4 in. rigid telescope crown, 2½ in snap brim, 24 ligne black silk band ¼ doz. in box Doz $48.00



5A5834 Alpine, extra fine Monte Cristo panama, selected quality, 5¼ in. alpine crown 2½ in. snap brim, 27 ligne black silk band ¼ doz. in box Doz $48.00

5A5835—Telescope, finest Monte Cristo panama, extra fine weave, clear white bleach, 4 in rigid telescope crown, 2½ in. snap brim, 20 ligne black silk band ¼ doz. in box Doz $54.00



5A5836—Young men's alpine, finest Monte Cristo panama, extra fine weave, 3¾ in. alpine crown, 2¼ in. snap brim, 19 ligne black silk band ¼ doz Doz $54.00

STRAW HATS BOYS', GIRLS' AND WOMEN'S

25c, 50c and $1.00 retailers that will make quick turnover and good profits for you. Nothing faddy—all staple shapes that will be good sellers throughout the season. Every hat pressed, sewed and trimmed in our own factories enabling us to offer these big values.

BOYS' STRAW HATS

5A5818—Imported peanut body, telescope crown 2¾ in roll brim with brown banding, 3 ligne black ribbon band. 1 doz. in pkg Doz. **$2.25**

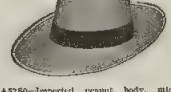
5A5819—Imported peanut body, Alpine crown 3¾ in mushroom brim with brown binding, 3 ligne brown Leatherette band. 1 doz. in pkg Doz. **$2.25**

5A5820—Imported peanut body, nobby ridge crown, 2¾ in roll brim with brown binding, band colored cord band with tassels. 1 doz. in pkg Doz. **$2.25**

5A5821—Imported peanut body, 2 dent ridge crown, 3¾ in roll brim with brown binding, 6 ligne brown alligator leatherette band. 1 doz. in pkg Doz. **$2.25**

GIRLS' AND MISSES' STRAW HATS

5A5771 Imported peanut body, child's round sailor crown, wide roll brim with brown binding, narrow brown satin ribbon 1 doz. in pkg Doz. **$2.00**

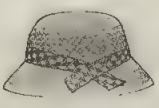


5A5780—Imported peanut body, misses' fluted crown sailor, wide mushroom brim with brown binding band, brown and red satin band 1 doz. in pkg Doz. **$2.00**

5A5861 Imported peanut body, child's bottom top rah-rah crown 2½ in mushroom brim, brown binding, colored cord and tassel. 1 doz. in pkg Doz. **$2.25**

5A5880—Imported peanut body misses' 4 dent ridge crown, 3¾ in roll brim with brown binding floral painted design on brim. 1 doz. in pkg Doz. **$2.25**

5A5862—Imported peanut body misses' ridge crown helmet, 3¼ in mushroom band with brown binding, 10 ligne ribbed silk band ½ doz. in box Doz. **$3.50**



5A5863 Imported peanut body child's round rah-rah crown, 2¾ in brim with brown banding, 12 ligne floral design sash. ½ doz in box Doz. **$3.50**

5A5864 Imported sennit body, child's round crown 4¼ dent, 2 in roll brim with brown binding, 1½ ligne nobby checked band ½ doz. in box Doz. **$3.50**

5A5865—Imported peanut body child's new-cut hexagon crown 2¾ in roll brim with brown binding, handsome 12 ligne striped band ½ doz. in pkg Doz. **$3.50**

5A5866—Imported peanut body, misses' nobby telescope crown 3¾ in brim, mushroom 16 ligne Persian striped band with binding to match ½ doz in box Doz. **$3.50**

5A5867—Imported peanut body, misses' new-set 4 dent crown, 3¾ in roll brim handsome 16 ligne Persian band with binding to match ½ doz. in box Doz. **$3.50**

5A5869—Imported shaubi braid, round crown rah-rah, mushroom brim velvetees band and bow, cloth sweat. Assd. black, navy and green. ½ doz. in box Doz. **$6.00**

5A5870 -Imported shaubi braid, ridge helmet crown, mushroom brim, black or brown satin band and bow, cloth sweat. Assd. navy and red ½ doz. in box Doz. **$6.50**

5A5871—Imported smooth shaubi braid, child's newest octagon rah-rah crown, mushroom brim, black or brown satin band and bow black cloth sweat. Assd navy and green ½ doz. in box Doz. **$6.50**

5A5872—Imported smooth shaubi braid, child's popular round crown rah-rah, mushroom brim black or brown satin band and bow, black cloth sweat. Assd. navy and green, ½ doz in box Doz. **$6.50**

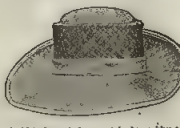
5A5874—Imported fine milan braid, child's newest octagon rah-rah crown mushroom brim, wide brown silk band and bow, black cloth sweat, paper tip, BROWN only ½ doz. in box Doz. **$8.50**

5A5876—Imported fine milan braid, child's popular round crown rah-rah mushroom brim, wide silk band and bow, black cloth sweat, paper tip. Assd. navy, green and black ½ doz. in box Doz. **$8.50**

WOMEN'S STRAW HATS

5A5883—Imported peanut body, round sailor crown, large 4½ in. roll brim with brown binding, 2 floral painted designs on brim. 1 doz. in pkg Doz. **$2.25**

5A5884—Imported peanut body, new 2 dent ridge crown, wide 3½ in roll brim, floral band with binding to match, 1 doz. in pkg Doz. **$2.25**



5A5885—Imported peanut body nobby telescope crown, wide 4¼ in. roll brim, nobby 18 ligne checked band with binding to match ½ doz. in pkg Doz. **$3.50**

5A5890—Imported peanut body newest 4 dent crown, wide 4¾ in. roll brim, handsome 18 ligne striped band with binding to match ½ doz. in box Doz. **$3.50**

For Nearly a Century the Store of Service.

MOTOR BOAT LIGHTS

FOR BOATS 25 FEET AND UNDER

GUARANTEED TO PASS INSPECTION

COMBINED LIGHTS—CLASS No. 1

WIZARD

Fig 33955A

BULL'S EYE

Fig. 33955B

WIZARD TRIPLEX

Fig. 33955C

Wizard—with Fresnal glass, hinge bottom, snap front. Bull's Eye—with round Fresnal lenses. Wizard Triplex—fitted with triplex Fresnal lenses

Style		Wizard	Bull's Eye	Wizard Triplex
Size of Glass	inches	3x4	3	3x4
Height	"	8½	9	8½
Width	"	4		4
Price, Galvanized	each	6 00	5 00	6 50
" Brass		7.50	6.50	8 00

DOUBLE A STERN LIGHTS

No. 12

Fig. 33955D

No. 14

Fig. 33955E

No. 12—fitted with Fresnal glass screw fount. No. 14—fitted with new style patent triplex lenses, with screw fount.

Number	12	14
Size of Glass inches	3½	3½
Height "	8¾	8¾
Price, Galvanized each	2.50	2.75
" Brass "	4.00	4 25

WITH RUBY, BLUE OR GREEN GLOBES

Number	12	14
Price, Galvanized each	3.50	3.75
" Brass "	5.00	5 25

MOTOR BOAT LIGHTS

CLASS 2

FOR BOATS FROM 26 TO 39 FEET IN LENGTH

SIDE LIGHT

Fig. 33956A

BOW LIGHT

Fig 33956B

TRIPLEX FRESNAL WITH SPRING FOUNT

		Side	Bow
Size of Clear Glass	inches	4x4½	4x7½
Number of Square Inches		18	30
Price, Galvanized	per pair	6.75	5.25
" Brass	"	9.75	7.00
" Extra for Hinge Bottom	"	.20	.20

CLASS 3

FOR BOATS FROM 40 TO 65 FEET IN LENGTH

SIDE LIGHT

Fig. 33956C

BOW LIGHT

Fig. 33956D

ANCHOR LIGHT

FOR CLASS 2 OR 3 BOATS

Fig 33956E

SIDE AND BOW LIGHTS—TRIPLEX FRESNAL

		Side	Bow
Style			
Size of Clear Glass	inches	5¾x5¼	5¼x7¾
Number of Square Inches		30	40
Price, Galvanized	per pair	7 00	5 50
" Brass	"	10 00	9 25
" Extra for Hinge Bottom	"	.20	.20

ANCHOR LIGHTS

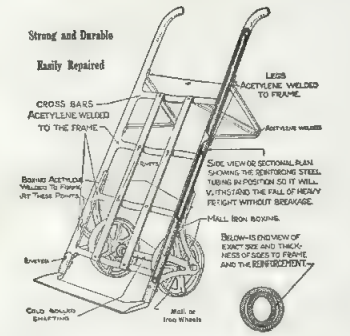
Diameter of Glass	inches	4¾
Height of Glass	"	4¾
" Over All	"	14
Price, Galvanized	each	3.25
" Brass	"	5.25
" with Ruby, Green or Blue Globe, Galvanized	"	4.75
" " " " " " Brass	"	6.75

Write us Your Requirements for Goods Not Listed.

GUILFORD S. WOOD

20 West Jackson Blvd., Chicago

Railway Necessities


Strong and Durable
Easily Repaired
LEGS ACETYLENE WELDED TO FRAME
CROSS BARS ACETYLENE WELDED TO THE FRAME
SIDE VIEW OR SECTIONAL PLAN SHOWING THE SEMITRONS STEEL TUBING IN POSITION SO IT WILL WITHSTAND THE FALL OF HEAVY FREIGHT WITHOUT BREAKAGE.
MALL IRON BOXING.
BELOW-IS END VIEW OF EXACT SIZE AND THICKNESS OF SIDES TO FRAME AND THE REINFORCEMENT

The Gibson Trailer

BRAKE AND SIGNAL HOSE PROTECTOR
WOODS' FLEXIBLE NIPPLE END AIR

Steam and Electric Railway

BRAKE SHOES

Miscellaneous

Gray Iron Castings

American Brake Shoe & Fdry. Co.

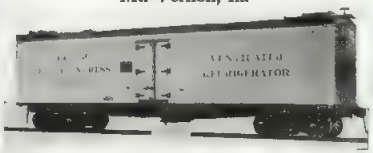
Mahwah, N. J.

332 S. Michigan Ave., Chicago

Chattanooga, Tenn.

Mt. Vernon Car Manufacturing Company

Mt. Vernon, Ill.



Builders of

Steel, Wood or Composite

FREIGHT CARS

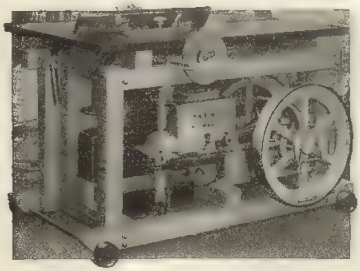
Capacities: 10,000 Freight Cars
150,000 Car Wheels
20,000 Tons Forgings

Send us your inquiries for Standard Gauge or Industrial Cars

MINING CARS, WHEELS AXLES AND FORGINGS

C H & E

Portable Saw Rigs



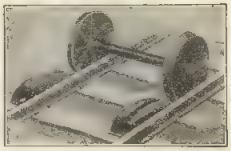
We also manufacture power-driven Bilge Pumps, Piston Pumps, Triplex Pumps, Builders' Hoists, Mortar Mixers, Material Elevators, Engines.

C. H. & E. outfits will be found on every job.

Labor is a big item on all your construction work and our power-driven outfits will save you money.

Write for complete catalogue

C. H. & E. Manufacturing Co., Inc.
281 Mineral St. Milwaukee, Wis.



ALDON

Car & Engine REPLACER

Made in five sizes for all conditions of service.

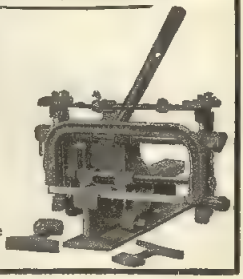
Manufacturers
Jim Crow Rail Benders, Track Drills, Car Movers, Track Gauges, etc.

THE ALDON COMPANY
3338-40 RAVENSWOOD AVE., CHICAGO, ILL.

ALDON
PORTABLE
RAIL SAW

Automatic Feed, Variable and Adjustable.
Suitable for Any T-Rail Six Inches or Less.

Weight complete only 60 lbs.



Saws, Portable

C. H. & E. Manufacturing Co., Inc., 281 Mineral St., Milwaukee, Wis. . . . See Page 7
C. H. & E. Portable Saw Rigs are invaluable to contractors for sawing lumber for concrete forms, building houses, etc. They are complete, self-contained plants and are quickly and easily moved from job to job. Gasoline engines are usually mounted, but where desirable, outfit may be equipped with electric motor. Can be furnished as rip and cross cut saws only, or, as complete woodworkers with jointer, boring attachment, band saw, etc. Seven various sizes and types are made to meet different conditions, one of which is shown in our advertisement.

Dewey Supply Corporation, 18 W. 34th St., New York. . . . . See Advt. Index, Page 7

Liberty Power Saw Co., Inc., St. Paul, Minn.

Saws, Pruning See Tools, Pruning
Saws, Rail See Saws, Hack, Rail
Saws, Rail, Portable

Aldon Co., The, 3338-40 Ravenswood Ave., Chicago. . . . . See Advt. Index, Page 7
With the Aldon Portable Rail Saw it is possible to make a clean straight cut from ¼ inch to 6 inches without butchering the rail.
It has an automatic feed and weighs but 60 pounds. Especially adapted for cutting rails for fiber end posts and insulated joints.

Industrial Works, Bay City, Mich. . See Page 7

National Surface Guard Co., Fisher Bldg., Chicago . . . . See Advt. Index, Page 7
The National One Man Rail Saw is the one which saves many broken saw blades and secures perfect cuts. Easily operated by a crank. Capable of turning a crank. It is secured and held in place and makes such perfect cuts that a piece ¼" thick can be cut off rail. It is quickly and easily clamped to rail. Straight cuts—or cuts at any angle may be made. It is strictly portable—as any man can carry it from place to place—or move it about as required. No skilled chisel or hammerman necessary with this saw. A Track foreman can almost instantly set and rigidly clamp this saw exactly where the cut is to be made, and then anyone who can turn a crank will make absolutely perfect cuts. Workmen will not break saw blades—and will not spoil any rails—as many are now spoiled when using the chisel or ordinary hand hack-saw or wobbly saw machine. No other saw compares with it for accuracy, ease and simplicity of operation.

Q & C Company, The, 90 West St., New York, (Circular.) . . . . See Advt. Index, Page 7

National Rail Saw

Can't Wobble—Saw Blade Held Absolutely Rigid. A Man Can't Make a Poor Cut if He Tries. Cuts to a Hair Line.

Power operated if desired

Fastened to the rail in 18 seconds—operated by any man who can turn a crank—result, a perfect cut.

Cuts rail in or out of track. You can cut off a piece of rail only 1/16 inch thick.

Makes mitre cuts at ANY angle.

National Surface Guard Company
FISHER BUILDING CHICAGO

The Neverout

REG. U.S. PAT. OFF.

Mirror and Parking Light

SAVES THE BATTERY

Makes driving safe by day. At night, with the car parked, a bright red and white light glows—yet it consumes little current. Pays for itself in a short time, because there is no strain on the battery.

The mirror is not made of ordinary glass. It is a scientifically-ground lens—beveled. Gives three times greater vision than the ordinary mirror.

Mirror is instantly adjustable at any angle and securely locked in frame. Simple and sturdy. Beautifully finished; an ornament to any car. Fits any fender.

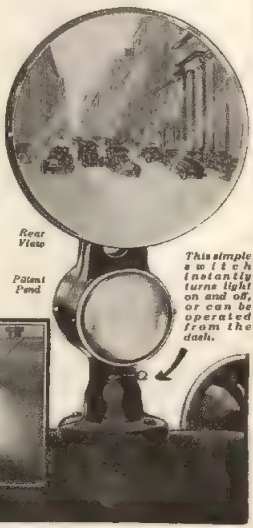
If Your Jobber Cannot Supply You Write to Us Today for Full Particulars

The Neverout

License Brackets

to Fit All Cars. They Comply With the Law

Style No. 9 Front Bracket attaches direct to water-filler tube. No stock is complete without Neverout License Brackets.



Rose Mfg. Company

DEPT. D

Philadelphia, U.S.A.

Neverout Products— The World's Standard

For Nearly a Century the Store of Service.

NEWMAN PORTABLE WATCHMAN'S CLOCKS

APPROVED BY NATIONAL BOARD OF FIRE UNDERWRITERS AND ALL MUTUALS

CLOCK OPEN IN GRILLE POUCH

Fig. 12580A

A desirable feature of this watchman's clock is that through the system adopted by using a male and female die, it is possible, by making a slight deviation in the position of the figures, to produce a clock in which the keys of another clock of even the same make cannot be used

This feature is a great advantage in establishments where more than one clock is in use.

Watchman's clock systems whether electrical or portable, in which the record is in the form of pin pricks are not tamper-proof. To prove this, place a dial of any such system downward upon an ordinary ink blotter and witness with what ease a dial can be punched entire, or missed stations filled in by the simple use of a needle or even the pointed end of an ordinary sticker file found in every office.

A Newman Dial cannot be manufactured or missed stations filled in, except by actually taking the clock to the stations.

The case of this portable watchman's clock is substantially made of aluminum, combining lightness and strength Has tight-fitting hinged lid and re-enforced key-hole The use of aluminum prevents tarnish or injury from acids or grease The case is equipped with a pricking device which registers upon the paper dial each and every opening and closing of the clock, such registration showing the exact time of opening and closing.

The movement of the clock is similar to that of a fine pocket watch, being jewelled and having thick plates and pillar posts, thus minimizing damage in case of accident. Pinions and pivots are made of tool steel, highly polished. Cut wheels. The hair spring is non-magnetic and non-corrosive.

The face of dial is made of silvered metal, 2½ inches diameter with plain black hands, so that it is easily readable at night and results in a better dial record than one without it.

The Newman Key cannot be duplicated except by the manufacturer Each key has a different raised number upon the right angle flange, which when registering fits snugly and properly into the keyguide and meets the female die or matrix resulting in a perfectly embossed figure denoting the station number and the exact time at which it was visited

STATION BOX AND KEY

Fig. 12580B

Price, Complete,	6-station	Size	.....	each	73.00
"	"	9	"	"	.....	"	76.75
"	"	12	"	"	.....	"	80.75
"	"	16	"	"	.....	"	86.00
"	"	20	"	"	.....	"	94.00
"	"	25	"	"	.....	"	105.00
"	"	30	"	"	.....	"	115.00
"	"	36	"	"	.....	"	125.00

SHIPPING ROOM SUPPLIES

No. 54 RED BULL NAIL PULLERS

Fig. 40638A

The shank and claw are forged from a fine grade of special steel, hardened and tempered. Foot of claw is flat and broad which prevents splitting of thin box lids.

Rammer is graceful in design and shaped to give the maximum of strength. Stop-pin holes are re-enforced by extra metal. The Red Bull will not roll and stays where it is put on account of the four knobs just below the handle, which also provide an easy rest for the hand

The rammer is finished in jet black, grip and trade mark enameled in bright red. Shank and claw polished.

Price, 18-inch .....per dozen **21.00**

No. 56 SUREGRIP NAIL PULLERS

Fig. 40638B

Square shank with hand guard. Automatic claw—no spring

Double shoulder bearing of claw on rivet. Central grip of claws. Always grip the nail.

Box joints at jaws. Great strength and wearing qualities. That portion of the claw which rests on box lid has a broad bearing surface which prevents splitting thin box lids.

Handle is finished in jet black enamel, other parts natural steel finish with points of jaws polished bright.

Price, 18-inch.. .per dozen **21.00**

No. 99 TOMAHAWK BOX TOOLS

Fig. 40638C

Made of fine high carbon, drop forged steel with two pieces of hardwood securely riveted to it, forming an oval handle which fits the hand perfectly.

Built to stand use and abuse wherever there is cutting, prying, nail-pulling or hammering to be done.

The solid construction and the use of fine steel properly hardened and tempered makes the Tomakawk practically unbreakable

Price, 13-inch.. per dozen **21 00**

No. 90 MATCHLESS OPENERS

Fig. 40638D

Forged steel tip to butt. Length, 12 inches. A very useful tool for opening boxes, barrels, shoe cases, etc.

Pulls and drives anything from a carpet tack to an 8d nail Made of fine steel, hardened and carefully tempered. Oval wood scale handle fits hand.

Price..... per dozen **12 00**

No. 70 NOX TOX CRATE OPENERS

Fig. 40638E

The Nox Tox Crate Opener is forged in one piece and is warranted

Hardened head, tempered claw. One hammer head, scored, one plain

Weight, 14 ounces. Length over all 9 inches

Natural steel finish, polished claw.

Price ..... per dozen **7.20**

Write us Your Requirements for Goods Not Listed.

SHURE THE WINNER

Electricity and Vending Machines

N7918

N7910

N7912

N7919

No. N7918. The New Acme Electric Machine. Uses only one dry battery. Usually good for 2,000 or more plays. Automatic rewind after each play, has a cut-off adjustable from ½ to 1 minute. Made of pressed steel, substantial, attractive, and a splendid money earner. Has coin detector. Red finish. Dimensions, 7x9x13½ inches, including top frame which is 3½ inches high. Shipping weight 15 pounds. Each 8.50

No. N7912. New Model Sanitary Peanut Vender, with coin detector. Holds 7 pounds of peanuts and vends them for about .36 per pound. Shipping weight 23½ lbs. Each 3.90

No. N7916. Wall Bracket with lock for above machine. Each ..... .60

No. N8150. Salted Peanuts, 10 pounds in a box. Per box 1.25

No. N7910. New Model D Ball Gum Vending Machine. Holds nearly 4 boxes of 100 balls each. Novel, sanitary, economical, attractive. 12¼ inches high and 7¾ inches in diameter at base. Made of metal and glass, finished in red. Has rubber feet, and our famous coin detector. Shipping weight 9½ lbs. Each 7.10

No. N7911. Wall Bracket with lock for above machine. Each ..... .60

No. N8195. Ball Gum in assorted colors, 100 in a box, 100 boxes in a case. Per box ..... .33
Per case 30.00

No. N7919. The Globe Match Vending Machine, made of metal and glass, is 17 inches high and 8 inches in diameter. Has rubber bumpers for counter use. Has a good coin detecting mechanism. Shipping weight, 18 lbs. Each 7.00

No. 15G31. Matches for above machine. Regulation size box. One gross in package
Per gross 1.00

Fortune Telling Sales Boards

No. N1168. Fortune Telling Salesboard, is the latest and fastest trade stimulator and creates more interest than any other selling plan yet devised. The portion of the slip which is exposed at all times bears the words, "Have your Fortune Told." The player's fortune is concealed on the back of each ticket also, the number and serial number. Every dealer is protected, as each slip has a protective serial number and fortune printed on back thus insuring every possible protection. Blank space on each board for advertisement. Salesboards come in the following sizes:

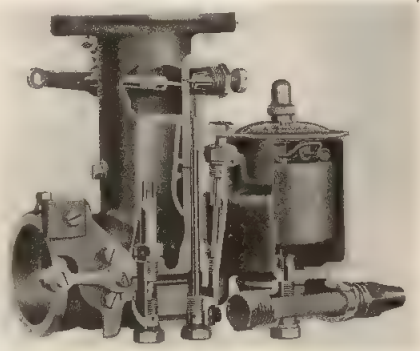
No. of Fortunes Per Box.	Size of Board.	Price Each
300	7¼ x 7	.55
400	7¼ x 7	.70
600	7¼ x 7	.92
1000	7¾ x 9¼	1.45
1200	9¾ x 9¼	1.80
1500	9¾ x 11¼	2.30
2000	7¾ x 15½	2.90
2500	14 x 11¼	3.50
3000	14 x 15½	4.00

WHOLESALE N. SHURE CO. CHICAGO.

NEW EQUIPMENT, PARTS AND SUPPLIES

New Holley Carburetor

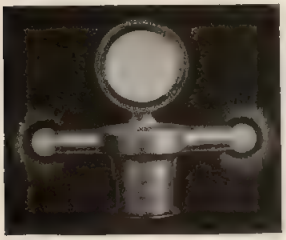
Holley Carburetor Co.
Detroit, Mich



Simplicity of design, resulting in the elimination of various moving parts, such as valves, needles, dash pots, etc., and the introduction of some noteworthy improvements distinguish this new model, recently developed by the above company. It is of the plain tube type, and has but one master nozzle, which affects the flow of fuel for both idling and running with wide open throttle. Two holes located above and below the throttling plate give this control. On idling the upper hole only supplies the mixture, the lower one acting as an air bleeder. As the throttle is opened slightly, the bleeder action is reduced, thus maintaining the mixture proportions. On further opening, both holes are exposed to the suction above the throttle, and both act as fuel outlets to supply the extra gasoline made necessary by the larger volume of air passing the throttle. The master nozzle is adjusted by a needle valve. The idler has an additional adjustment, which is used for extremely low speed. When driving at the lower speeds, with partially closed throttle, there is an accumulation of fuel in the well, and upon the opening of the throttle, this accumulation becomes immediately available for enriching the mixture, providing snappier acceleration. By referring to the illustration it can be noticed that there are no passages leading to the atmosphere, thereby preventing clogging. An additional advantage of placing these passages so that they take air from within the carburetor itself is that instead of drawing cold air, warm air is supplied. Another interesting detail is the cylindrically-shaped strainer, which can be easily disassembled and cleaned without disturbing the gasoline connection or installation of the carburetor. The carburetor, which is universal in its installation, is at present being manufactured in 1 in., 1¼ in., 1½ in. sizes, top outlet, and a series of side outlet carburetors will soon be in production.

The Illuminated Radiator Bar Cap

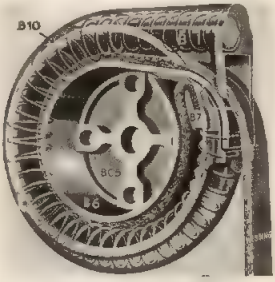
The Automobile Engineering Co.
14 West Washington St., Chicago, Ill.



A device that should appeal to the motorist from both the viewpoint of utility and ornamentation is shown herewith. It is designed along the lines of an ordinary bar cap, with the one exclusive deviation, however, of having incandescent electric bulbs in frosted white, red or green. In addition to illuminating the motometer and providing sufficient light for slight repairs, examination or adjustment of the engine at night, it has an ornamental effect. The wires are protected by a wall that prevents the moisture from affecting the insulation. It can be attached to practically all cars.

The National Shockezer

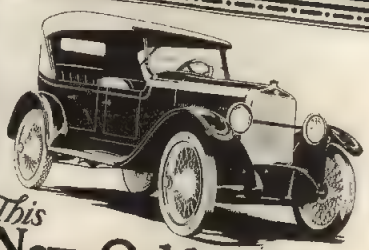
The National Steel Products Co.
Dayton, Ohio



The phantom view herewith clearly illustrates construction of this device which is capable of absorbing webbing 7 in. long, or effectively absorb the webbing on a car compression of 7 in. Total length of webbing employed in this device is 30 in. This length, it is said, allows of such a small stretch that it is practically negligible. It is constructed throughout of brass, except the axle fittings, which are made of malleable iron

Oakland

Here's Oakland's announcement of a new Sport Model—an outstanding value at a remarkably low price



This New Oakland Six Sport Model $1265 Fob Pontiac

HERE is a real Sport Car—with true Sport Car quality, beauty, power, speed and economy—at the new low price of $1265.

Here can be a genuine all-purpose car in owners' service capacity will suit pleasing business needs and also the work is over.

Approved as right as a matter, this new Sport Model has abundant seat room for four passengers, or the needed extra space for baggage or for carrying business equipment.

The Oakland Six Sport Model combines sterling beauty of design, finish and fittings with the enduring service and performance that have won the unqualified approval of the many hundreds of owners of Oakland Sixes that sets a new standard for cars of its type.

This car will consistently deliver from 18 to 25 miles on every gallon of gasoline, and from 17,000 to 18,000 miles on every set of tires.

It is indeed unusual to find a 5 car 3d appropriation of which is a genuine business asset, a car of which you can feel honestly proud in any company and under all circumstances—when at the same time engineers so little for operating expenses and is priced so low.

The Sport Model is powered with the famous Oakland Overhead Valve Engine—a Oakland patent—the valves with special high-strength and with "silenced" cylinders of the most perfect finish known in the automobile world.

Just a few of the outstanding features of this great Sport Car value

Motor mounted Sport Model bodies
Wire wheels
Disc steering wheel
Rubber steering Speedometer
Instrument lights, glove
Automatic windshield wiper
Rear view mirror
Motometer
Electric horn
Cowl lamps
Tire carrier
Trunk rack
Tool equipment
Spare tire lock
Motor lock
Ignition lock
Rear fender guards
Bumper
Trunk rack
Tool equipment
Spare tire lock
Motor lock
Ignition lock
Rear fender guards
Bumper

We will be glad to arrange a demonstration of this new Sport Model to suit your convenience. Don't fail to see this car at the first opportunity.

Oakland Motor Car Company
Use of the General Motors Corporation
Pontiac
Michigan

To-day's **Oakland Six**

No car in our experience has met with the instant popularity accorded the new Oakland Six Sport Model. Wherever displayed it has proved a quick seller and a real business-getter

Dolls

Novelty Dolls

Dressed Kewpies

N13309

N13308—COMPOSITION KEWPIE—Dressed in satin ribbon dress, lace pantalettes, trimmed with ribbons. Ribbon wristlets, real hair wig with bow in back, and trimmed with black velvet band. Height, 10½ inches..... Each 2.25

N13309—COMPOSITION KEWPIE—Dressed in Spanish dancing costume. Dressed skirt of fine voile. Real hair wig and hair net. Black lace shawl, draped head and falling over shoulders. Hair dressed with large poppy flower. Height, 10½ inches, ... 2.50

N13310—COMPOSITION KEWPIE Dressed in daisy colored cotton organdie, draped dresden. Large picture hat of same material, real hair color to match dress, trimmed with black velvet ribbon. Height, 12 inches, packed each in box..... 3.50

Kewpie Bride and Groom

N.9306-07

N19306—GROOM KEWPIE—Fully dressed. Fine patent leather shoes, cut-away coat, bow tie, high hat, white flower in button-hole. Height, 10½ inches packed each in box... Each 2.50

N19307—COMPOSITION KEWPIE Dressed in white satin dresden, trimmed with pearls, bridal veil with band of bridal bouquet, genuine hair wig, height, 10½ inches, packed each in box..... 2.50

Schoenhut's Unbreakable Jointed Wooden Dolls—Real Mohair Wigs

Body, head, arms, legs, hands and feet are made of solid wood, painted in enameled oil colors and can be washed. Patented steel sockets. Hinged joints having double spring tension and swivel corrections. With metal stand, easy in box.

N15233

N15234

N15235

N15236

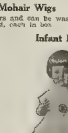
N15233—FULL JOINTED BOY DOLL—White linen silk mull stand; height, 14 inches..... Each 3.25

N15234—BOY DOLL—With fine mohair wig, bobbed style; dressed white slip; height, 14 inches 4.00

N15235—CHARACTER BOY DOLL—With fine tinted mohair wig, "Buster Brown" style neatly made linen suit, undergarments, shoes and stockings. Height, 14 inches..... 6.00

N15236—CHARACTER DOLL—With conventional "doll face"; fine long curly mohair wig, ribbon tied, neatly made linen suit, undergarments, shoes and stockings, height, 14 inches. 5.75

Infant Dolls



N14231-32

N14231—INFANT DOLL—With fine mohair wig "bobbed" style, jointed hips and shoulders; dressed in white slip, height, 13 inches ..... Each 4.80

N14232—INFANT DOLL—With fine mohair wig, "bobbed" style, jointed hips and shoulders, dressed in white slip; height, 14 inches 5.75

Composition Head

China Head

N.25-75

N19307-75

CHINA DOLL HEADS—With painted hair, eyes and features

	Per doz.
N18267—Height, 2¾ inches, width across shoulders, 2¼ inches. 1 dozen in package.....	1.25
N18268—Height 3¾ inches; width across shoulders, 3¼ inches. 1 dozen in package.....	2.00
N18269—Height 4¼ inches, width across shoulders, 3 inches 1 dozen in box.....	2.50

HARD-TO-BREAK COMPOSITION DOLL HEADS—With painted hair, eyes and features

	Per doz.
N18270—Height, 4½ inches, width of shoulders, 3 inches. ½ dozen in a box, not broken	3.60
N18271—Height, 5 inches; width of shoulders at base, 3 inches. ½ dozen in box.....	4.00
N18272—Height 5¼ inches, width of shoulders at base, 3 inches. ½ dozen in box.....	4.00
N18273—Baby face, height, 5 inches, width of shoulders at base 3¼ inches. ½ dozen in box.	4.00
N18274—Height, 5 inches, width of shoulders at base 3¼ inches ½ dozen p box.....	5.75
N18275—Baby face, height, 6 inches, width of shoulders at base, 3½ inches. ½ dozen in box.	5.75

Composition Heads

N18276-79

N18580-83

HARD-TO-BREAK COMPOSITION DOLL HEADS—With painted hair and features, and shoulder plate

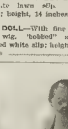
	Per doz.
N18276—Height, 4¼ inches wide; across shoulders at base, 2¾ inches or ½ dozen in box	6.00
N18277—Height 4¾ inches width across shoulders at base, 2¾ inches ½ dozen in box	7.75
N18278—Height, 5½ inches width across shoulders at base, 3 inches ½ dozen in box	7.75
N18279—Height 5¾ inches, width across shoulders at base, 3¼ inches ½ dozen in box	7.75
N18280—Height, 6¼ inches, width across shoulders at base, 3½ inches ½ dozen in box	7.75

Mohair Wig and Moving Eyes

	Per doz.
N18280—Height 5¾ inches, width across shoulders at base, 3 inches. ½ dozen in box...	11.20
N18281—Height, 6 inches, width across shoulders at base, 3 inches. ½ dozen in box	11 20
N18282—Height 6¾ inches, width across shoulders at base, 4 inches. ½ dozen in box	11 20

Celluloid Dolls

N18313



N18319

CELLULOID DOLLS—With jointed arms, stiff legs, painted hair and features

	Per doz.
N18316—Height 5½ inches. 3 dozen in a box not broken.....	1.44
N18316—Length 6 inches. 1 dozen in box, not broken.....	2.00

CELLULOID FAT BABY DOLL—With jointed arms, stiff legs, painted hair and features

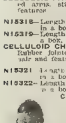
	Per doz.
N18318—Length 3½ inches. 3 dozen in a box, not broken.....	4.20
N18319—Length 6 inches. 1 dozen in box, not broken.....	2.00

CELLULOID CHARACTER BABY DOLL—Rubber jointed arms and legs, painted hair and features, bent legs

	Per doz.
N18321—Length 3½ inches. 3 dozen in a box not broken.....	1 20
N18322—Length 4½ inches. 1 dozen in box, not broken.....	1 50

CELLULOID DOLLS—With costumes, jointed at height, costumes jointed arms, hair wigs, painted features

	Per doz.
N18313—Length 3 inches. 3 dozen in a box not broken. Per gross.....	4.80
N18320—Length 3½ inches. 3 dozen in a box, not broken. Per gross.....	4.80
N18314—Length 4½ inches. 3 dozen in a box, not broken. Per gross.....	4.80
N18317—Length 5 inches. 1 dozen in a box, not broken. Per gross.....	3.00
N18312—Length 5 inches 3 dozen in a box, not broken. Per gross.....	9.60



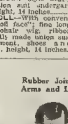
N18312

Celluloid Dolls

Kewpies

N18.1

Rubber Jointed Arms and Legs



N18323-26

	Per doz.
N18311—Height, 4½ inches. ½ dozen in box.....	1.20
With straight stiff legs and rubber jointed arms.	Per doz.
N18323—Height, 5 inches. 1 dozen in box.....	1.90
N18324—Height, 6¾ inches. ½ dozen in box.....	2.80
Character baby features, jointed arms and legs.	Per doz.
N18325—Height, 4¾ inches. 1 dozen in box.....	1.78
N18326—Height, 6½ inches. 3 dozen in box.....	1.92
N18327—Height, 6 inches. ½ dozen in box.....	2.34
N18328—With painted clothes and hair. Height, 6½ inches. ½ dozen in box.....	3.84
N18329—Height 6½ inches. ½ dozen in box.....	4.28
N18330—Height 7 inches. Each in box.....	7.80
N18331—Height, 8½ inches. Each in box.....	9.50
N18332—Height, 9½ inches. Each in box.....	11.50
N18333—Height, 11½ inches. Each in box.....	1.40
N18334—Height 13½ inches. Each in box.....	1.75

Celluloid Dolls With Wigs

Rubber Jointed Arms and Legs, and Wig

N18335-42

CELLULOID BABY DOLLS—With jointed arms and legs, and mohair wig

	Per doz.
N18335—Height, 5¼ inches. ½ dozen in box.....	3.82
N18336—Height, 6 inches. ½ dozen in box.....	5.25
N18337—Height, 7 inches. ¾ dozen in box.....	5.78
N18338—Height 8½ inches. Each in box.....	10.59 Each
N18339—Height, 10 inches. Each in box.....	1.00
N18340—Height, 11½ inches. Each in box.....	1.80

Ima Walker Doll

	Per box
N18296—LITHOGRAPHED CARD-BOARD WALKING DOLL With dark hands. Doll is 14 inches high. Handle is 18 inches long. 3 dozen in box.....	1.92

All prices in this Catalog are NET

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Dolls

Full Jointed Doll

With bisque head real human hair ringlet wig, moving eyes with eyelashes, white kid. Each in box.

Each

N16530 Height 12 inches..... 2.00

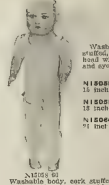
N16040—Height 13 inches..... 2.75

N16041 Height 17½ inches..... 3.80

N16042—Height 20 inches..... 4.70

N16039-42

Amkid Doll



Washable body, sock stuffed, composition head with painted hair and eyes. Each in box

Each

N16088—Height 15 inches..... 1 80

N16089 Height 18 inches..... 2.00

N16046—Height 21 inches..... 2.80

N16037 38

Kidlyne Body Dolls

Jointed hip and knee shoulders and elbows, sleeping head with human hair ringlet wig moving eyes. Each in box.

Each

N16027—Height 14½ inches..... 2.75

N16028—Height 16 inches..... 3.00

Jointed Arms

N16062-64

Cork stuffed, full jointed arms and legs, composition head, moving eyes, long human hair wig with neat curls. Each in box.

Each

N16062—Height 19 inches..... 5.00

N16063—Height 21 inches..... 5.75

N16064—Height 24 inches..... 7.80

Undressed Kewpies

N16280-86

N16280-86

5 SQUE KEWPIES—Rubber jointed arms, stiff legs, painted in natural colors.

Per doz.

N16280—Length 4½ in. Each in a box 1.92

N16281—Length 5½ in. Each in a box 3.02

N16282—Length 6½ in. Each in a box 5.04

N16283—Length 7½ in. Each in a box 1.00

Per doz.

N16293—COMPOSITION WOOD PULP KEWPIE DOLL—Jointed arms and legs. Manufactured in natural flesh color. Face painted in the original Kewpie features. Height, 9 inches, packed each in a box..... 8.00

Each

N16294—Same as N16283. Height, 10½ inches..... 1.00

N16295—Same as N16287. Height, 13 inches..... 1.40

"Splash Me" Dolls

N16285-87

N16285—"SPLASH ME" DOLL—Plaster composition, sitting figure. Have assorted gay colored one-piece bathing suits with painted bathing sandals to match, assorted colored ribbon bandannas, very attractively painted features with large sombrero eyes. Measures 5 inches, packed each in box.

Per doz. 3.75

N16286—Same as N16284. Measures 6½ inches, packed each in box..... 6.00

Per doz. 6.00

With Wig

N16286—Same as N16284, Measures 7 inches. 3 assorted, with mohair wigs and vote. No bandannas packed 6 each in box.

Per doz. 6.00

N16287 Same as N16285. Measures 9½ inches, mohair wigs and vote. No bandannas packed each in box..... 7 80

Per doz.

"Tiss Me" Dolls

N16288 89

"Tootsie" Prize Baby

N16290

Per doz.

N16288—"TISS ME" DOLL—Plaster composition, sitting figure, with head slightly tilted. Blue eyes, shoulders and arms dressed in assorted white pink and blue dressy gowns. Attractive features with painted-on pompadour. 4½ inches. Packed ½ dozen in box..... 3.75

N16289 Same as N16288. Size 6 inches. Packed each in box..... 6.00

N16290—"TOOTSIE" BABY DOLL—Plaster composition, sitting figure, bisque head, fully painted features and satin bottle. Packed each in box..... 6.00

Novelty Dolls

Dressed Kewpies

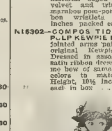
N16301

N16302

Each

N16301—FANCILY DRESSED KEWPIE — In assorted colored satin dress edged with narrow lace trimming. Cap of same material edged with lace and trimmed with marabou pom-pom. Baby ribbon wristlet. Height, 9 inches packed each in box... 1.25

N16302—COMPOSITION WOOD PULP KEWPIE DOLL With jointed arms painted in the original Kewpie features. Dressed in assorted colored satin ribbon dress and a cape base of same material in contrasting color. Dressed. Height, 9 inches, packed each in box..... 1 50



N16304

N16303—KEWPIE DOLL—Dressed in fine quality satin dresses and bonnets to match, trimmed with fancy row of gold and silver braid. Cape effect, held in number around the gauze material as dress. Mohair wig with marabou trim. Ribbon wristlets to match color of dressing. Height, 9 inches packed each in box... 1 60

N16304—COMPOSITION KEWPIE—Dressed in satin ribbon dress and bonnet to match, over-all lace trimmed. Satin ribbon shoulder straps to match, trimming of dress. Plaited shaped satin hat to match color of dress, trimmed with ribbon rosette and floral bouquet. Fine quality heavy gold bronzed shoes. Ribbon garters to match dress in front, bow at top; name Nicht 9 inches mohair hair inside dress in box..... 1.75

N16305

N16305—COMPOSITION KEWPIE—Dressed in fine satin ribbon dresses. Has panta ets, trimmed with numbers of same material as dress. Ribbon wristlets and hat to match, hat lined and trimmed with hand velvet band. Height, 9 inches, packed in box. Each..... 1.75

Novelty Doll

N16299-98

N16315

Each

N16298—COMPOSITION WOOD PULP KEWPIE DOLL—With gold jointed arms and shoulders painted in natural flesh color. Face painted in the original Kewpie features. Dressed in assorted colors, packed each in box. Height, 7 inches..... 1 40

N16297 Same as N16298. Height, 9 inches..... 2 00

N16298—Same as N16296. Height, 13 inches..... 2 00

Novelty Doll

Per doz.

N16212—NOVELTY DOLL Unbreakable composition face, jointed arms. Height, 12 inches..... 6.75

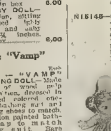
N16375—KEWPIE DOLL—Plaster composition jockey, baseball player, clown, baby in stockinet rompers, or soldier uniform; can add bisque. Height, 4½ inches, one dozen in box assorted..... 2.00

The "Vamp"

N16491-92

N16291 — VAMPING DOLL—Bisque head with wool composition body, dressed in assorted colored one-piece bathing suits to match, imitation painted bathing caps to match suits, bisque arms and shoulders and legs. Head slightly tilted to one side painted features with flirting pupil eyes. Has assorted colored earrings. Dozen assorted in packages, 6 dozen in box. Packed each in box..... 1.00

N16292 Same as N16291 with mohair wig..... 1.80



N16289

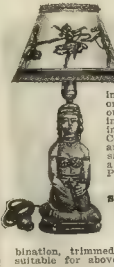
N16289 — COMPOSITION WOOD PULP KEWPIE DOLL — With jointed arms, painted in the original Kewpie features. Dressed in assorted colored satin ribbon dresses and kiss-me aprons of same material. Height 9 inches packed each in box. Each..... 1 60

From

N16300—BRIDE KEWPIE—Dressed in white satin. Fine forget-me-not bouquet, bridal veil. Height 9 inches packed each in box..... 1.25

Art Lamps With Silk or Parchment Shades

Oriental Design



No. 2C107. Oriental Design Lamp. The body represents an oriental woman with headdress and jewels finished in brilliant shades of genuine colors, kneeling on a rich colored oriental cushion. 14 inches in height, 5¾ inches square base. Complete with cord and plug. Without shade. 1 dozen in a crate.
Per dozen..... 16.25

No. 2C113. Silk Shade, Empire design, 7 inches deep, 10 inches in diameter, handsome two-tone color combination, trimmed with gold braid, suitable for above lamp.
Per dozen 11.25

No. 2C108. Parchment Shade. As illustrated above. Round shape, 7 in. deep, 11 in. in diameter, highly decorated and brilliantly finished.
Per dozen..... 11.25

Camel Design

No. 2C32. Electric Camel Lamp, height 12 inches, length 7¼ inches, is exact reproduction of a camel, finished in natural colors, equipped with traps in red, white and blue and brown colors, with cord and plug. Without shade.
Per dozen 16.25

No. 2C118. Silk Shade, oval shape, assorted two tone color combination, scalloped edge, gold braid brim, size 7 inches deep, 11 inches base, suitable for above lamp.
Per dozen 11.25

No. 2C33. Parchment Shade, as illustrated above, oval shape, size 6¾ inches deep by 10 inches in diameter, highly colored in neat and attractive designs.
Per dozen 11.25

Holland Twin Design

No. 2C109. The Holland Twins; height, 11¾ inches, mounted on 4½ inch base. Boy and Girl design. Dressed in true Holland style, handsomely tinted in natural colors. Complete with cord and plug. Without shade. One dozen in case.
Per dozen..... 16.25

No. 2C112. Silk Shade, oval shape, 7 inches deep, 11 inches in diameter, assorted two-tone color combination effect, with scalloped edges and gold braid trimmed, suitable for above lamp.
Per dozen 11.25

Antique Vase Design

No. 2C103.

The handwork of European pottery workers is skillfully portrayed in this antique design electric vase lamp; the vase is of a rich color, overlaid with gilt. Height of vase 11 inches. Complete with fixtures, cord and plug. Without shade.
Per dozen 26.50

No. 2C113. Silk Shade. Empire design, 7 in. deep, 10 in. in diameter at base, handsome two-tone color combination trimmed with fine gold braid, suitable for above lamp. Per dozen..... 11.25

No. 2C104. Parchment Shade. As illustrated on above lamp, 7 inches deep, 10 inches in diameter at base. Highly colored in neat, attractive designs. Trimmed with gold braid.
Per dozen..... 11.25

Doll Design

No. 2C16. Doll Lamp, electric lighted, height 15 inches. Silk dress, gold braid, and rose bud trimmed. Natural hair wig with veil, and natural tinted features. Complete with cord and plug.
Per dozen 32.50
Each 3.00

Indian Chief Design

No. 2C111. Indian Chief Design Lamp, height 18 inches, mounted on a 5 inch square base. A true artistic reproduction of an American Indian chief with feather headdress, also girdle, moccasins, and blanket. Complete with cord and plug. Without shade.
Per dozen .. 16.25

No. 2C113. Silk Shade, Empire design, 7 inches deep by 10 inches in diameter, handsome 2 tone color combination, trimmed with gold braid. Suitable for above lamp
Per doz. 11.25

No. 2C104. Parchment Shade. Illustrated above. 7 inches deep by 10 inches in diameter. Highly colored in a neat, attractive design, trimmed with gold braid.
Per dozen ... 11.25

Novelty, Indian and Dressed Dolls

UNBREAKABLE COMPOSITION DOLLS

No. N3541. Doll of Unbreakable Composition, 9½ inches in height, light weight, natural tinted body, tinted features, large expressive eyes, painted hair, black shoes. A winsome little fellow with knitted pantaloons and cap in assorted colors. Each in box.

Per dozen..... 6.00

No. N3540. Dolls, Wnde, otherwise same as above. Each in box.

Per dozen..... 4.50

No. N3537. Doll of Unbreakable Composition, height 19 inches, movable arms, abundant curly hair, with hair bandeau with feather stickup, face and hair veil, black painted shoes with strap, white stockings, tinted body and features, large black expressive eyes, complete with maribou trimmed silk dress, and pantalettes in assorted colors. A doll that is practically indestructible and a beauty. Each in box.

Per dozen..... 15.50

NOVELTY INDIAN DOLLS

No. N3548. Cigarette Buck Indian Doll, height 12 inches, unbreakable composition head, beaded eyes, Indian tinted features, black hair, head band in assorted colors, clothed in an Indian blanket, in assorted colors, with stitched edge, with painted imitation moccasins. Each in box.

Per dozen..... 14.50

No. N3549. Indian Squaw, height 12 inches, unbreakable composition head, Indian tinted features, jet black hair with colored shawl, clothed in an Indian blanket in assorted colors, with painted imitation moccasins. Each in box. Per dozen..... 14.50

Imported Dressed Dolls

No. 5N66. Imported Dressed Doll, height 14 in., sleeping eyes, curly hair, bisque head, movable arms, legs and head, knitted stockings, fancy white slippers, underwear, lace trimmed accordion plaited cloth dress, with lace and ribbon trimmed blouses in assorted colors. Large 2-color ribbon trimmed hat. Each in box. Per doz. 12.00

No. 5N64. Imported Dressed Doll, height 14 inches, bisque head, curly hair, movable arms, legs, and head. Underwear lace trimmed accordion plaited cloth skirt with braid and ribbon trimmed blouse with collar. Knitted stockings, fancy white slippers. Large two-color straw hat.

Each in box. Per dozen.... 12.00

No. 5N68. Imported Dressed Doll, height 15½ inches, movable head, arms and legs, sleeping eyes, abundant curly hair, bisque head, knitted stockings, fancy white shoes, underwear, lace, button and ribbon trimmed dress in assorted colors. Large two-color ribbon trimmed straw hat.

Each in box. Per dozen.... 15.00

No. 5N69. Imported Dressed Doll, height 15½ inches, bisque head, long curly hair, movable arms, legs and head, knitted stockings, fancy white shoes, lace trimmed accordion plaitited skirt with lace and ribbon trimmed blouse in assorted colors. Large two-color, ribbon trimmed straw hat. Each in box. Per doz.. 15.00

Art Lamps, Trays, Casseroles, Etc.

No. 2C110. Baby Vamp Doll Lamp. Doll made of composition, movable arms, with real hair covered by net veil. Dressed in a silk marabou trimmed dress, fitted with cord and plug; also silk paper collapsible Japanese shade.
Per dozen, complete..... 22.50

Electric Library Lamp

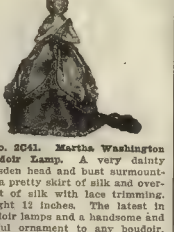
ELECTRIC LIBRARY LAMP

Electric Lamp. Heavy metal base and shade to match, fancy design, with iridescent glass panels in shade. Complete with silk finish cord and plug. An unusually handsome and appealing design. For boudoir, library or sun parlor.

No. 2C106. Silver Finish.
Each 5.50

No. 2C105. Old Ivory Finish.
Each 4.50

Martha Washington Boudoir Lamp

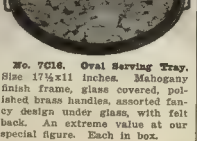


No. 2C41. Martha Washington Boudoir Lamp. A very dainty Dresden head and bust surmounting a pretty skirt of silk and overskirt of silk with lace trimming. Height 12 inches. The latest in boudoir lamps and a handsome and useful ornament to any boudoir. Complete with cord and plug.
Per dozen.. 29.50 | Each.... 2.65

Mahogany Serving Trays

MAHOGANY SERVING TRAYS

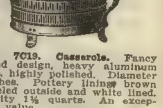
No. 7C13. Serving Tray. Size 17⅛x11¼ inches, with handsomely designed highly polished wooden frame, with brass trimmed handles, inlaid bottom, covered with heavy glass. Each in box.
Per dozen..... 12.00



No. 7C16. Oval Serving Tray. Size 17½x11 inches. Mahogany finish frame, glass covered, polished brass handles, assorted fancy design under glass, with felt back. An extreme value at our special figure. Each in box.
Each 1.75

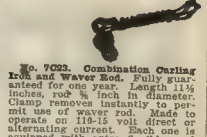
No. 7C12. Pie Dish. Metal frame, nickel plated, polished, fancy pierced design, diameter 10 inches, height 2⅛ inches, pottery lining, brown enamel outside, white lined.
Per dozen..... 11.50

No. 7C17. Casserole. Metal frame, heavily nickel plated, polished, fancy pierced design. Diameter 7 inches; height 6¾ inches. Pottery lining, brown enameled outside and white lined. Capacity 1½ quarts.
Per dozen..... 13.00



No. 7C19. Casserole. Fancy pierced design, heavy aluminum frame, highly polished. Diameter 8 inches. Pottery lining brown enameled outside and white lined. Capacity 1½ quarts. An exceptional value.
Per dozen..... 16.50

Electric Curling Iron



No. 7C22. Combination Curling Iron and Waver Rod. Fully guaranteed for one year. Length 11¾ inches, rod ⅝ inch in diameter. Clamp removes instantly to permit use of waver rod. Made to operate on 110-15 volt direct or alternating current. Each one is equipped with extra flexible cord and 2-piece attachment plug. Black enameled wood handle; all metal parts are heavily nickel plated and polished. Each in box.
Each 3.25

ANVILS

No. 953
STEEL ANVIL

Fig. 32605A

No. 957
BENCH ANVIL

Fig. 32605B

No. 953 STEEL ANVILS

Made with face polished and also made all polished or nickel-plated.

Size, Face	inches	4	5
Weight	ounces	8	16
Price, Face Polished	dozen	13 00	15.00
" All Polished	"	15 00	17.00
" " Nickel-plated	"	20.00	22.00

No. 957 BENCH ANVILS

Polished top or nickeled, also can be had all polished and nickeled

Number		957
Size, Face	inches	3½
Weight	ounces	21
Price, Top Polished	dozen	18 00
" Nickeled		20.00
" All Polished and Nickeled		30 00

SOLID STEEL ANVILS

Fig. 32605C

Forged from solid steel with a temper best adapted to an anvil.
Face, sides and horn polished, the base is japanned Black
Length of horn 2 inches in addition to length stated

Number		2
Length	inches	6
Width	"	2
Weight	pounds	5½
Price	each	5.60

Write us Your Requirements for Goods Not Listed.

For Nearly a Century the Store of Service.

BUFFALO PORTABLE FORGES

No. 210

Fig. 1813A

No. 522H

Fig. 1813B

No 141H

Fig. 1813C

No 161

Fig. 1813D

No. 210 forges are for railroads, shipbuilders, boilermakers machine shops, bridge builders and structural iron workers' uses

The Buffalo No. 200 Silent Blower in these forges has helical high speed gears and 12 inch fan of the most efficient design, with blast delivery along the line of least blast resistance. The fire pan is made of heavy rolled steel plate, strongly riveted. The wind shield and blower are detachable and can be packed in the fire pan for moving. A heavy round tuyere plate distributes the blast so as to insure the best results in heating.

No. 522 forges are built of heavy cast iron. They are an excellent forge for toolmakers, jewelers, repairing, tempering, etc. They are equipped with Buffalo No. 500 Handy Blower, the crank of which can be turned in either direction to produce an equally strong blast

No. 161 forges are an excellent line for a cheap lever type forge

No 141H forges are equipped with a 10-inch blower The bearings are ring-oiling, insuring easy, smooth operation without any attention but an occasional oiling. They are built for use in mills, factories and on farms

Number	210	211	212	522	522H	161	161H	141H
Size of Hearth..... inches	18	22	24	22	22	18	18	28x35
Diameter of Fan ... "	12	12	12	12	12	8	8	.....
Weight pounds	115	120	130	130	135	70	75	140
Price . . . each	35.00	38.00	41.00	33.00		14.00		
" with Hood .... "	.....	.....	.....	.....	36.00	.....	.....	.....
" " Half Hood. "	.....	.....	.....	.....	.....	.....	16.00	40 00
" without Water Tank . "	.....	.....	.....	.....	.....	.....	.....	.....

If No. 210 forges are desired with ring base, add 2 00 each

Rich Ormolu Gold Plated Clocks

Accurate Timekeepers

60W41

60W42

No. 60W41. Height 5¾ in., beautiful embossed floral and fancy decorations in Ormolu gold satin and burnished finish; guaranteed 32-hour time movement with 2-inch white dial gilt sash and reflector. Each..... 1.65

No. 60W42. Art Metal Clock. Rich Ormolu gold plated finish, fancy embossed floral and fancy decorations, 31-hour guaranteed timepiece. Height 5⅝ in. Width 6 inches with two-inch white dial. A large showy and dependable clock, absolutely guaranteed to give satisfaction. Each..... 1.90

60W38

60W44

No. 60W38. Special Gold Finished Clock, rich design; a new combination scroll and fancy pattern, good movement, fancy dial gilt reflector, heavy glass, one of the best values we ever had for either merchants or premium purposes, for the latter it is especially adapted. Each..... 2.25

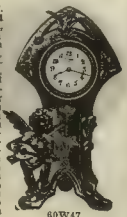
No. 60W44. Clock, height 7 in., beautifully raised Cupid figure and fancy decorations in Ormolu gold satin and burnished finish, 32-hour time movement, 2 inch white dial, gilt sash and reflector. An absolutely guaranteed clock Each..... 2.10

60W95

No. 60W95. Ormolu Gold Plated Clock, height 5½ inches, width 4¾ inches, 24 hour high grade American movement that will give satisfaction, 2 inch porcelain dial. Each..... 2.75

60W96

No. 60W96. Ormolu Gold Plated Clock, height 7 inches, width 5½ inches, porcelain dial 2 inches, with 24 hour high grade American movement that will give satisfaction. Each..... 3.00



60W47

No. 60W47. Ormolu Gold Plated Clock, height 7⅞ in., width 4¾ inches, raised ornamentations, finely finished design of Cupid playing mandolin on side; 2 inch fine porcelain dial. Guaranteed 32-hour movement. This may be classed as one of the best values we have to offer in clock line. Each..... 2.90

Exceptional Values in 14-Kt. Ormolu Gold Clocks

60W151

No. 60W151. Height 7½ in., silver 2-inch dial, 24-hour movement black spade hands. A very attractive design with Cupid figure. Each... 2.50

60W153

No. 60W153. Height 7⅜ in., width 5 inches, 24-hour, 2-inch silver dial movement, black spade dial hands. Cupid figure and fancy floral design. Each... 3.75

60W152

No. 60W152. Height 8⅜ in., silver dial, 2-inches, 24-hour movement, black spade hands. Artistic case, raised embossed design. Each... 3.85

Hayward Buckets

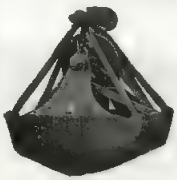
The Hayward Electric Motor Bucket in Ash-Pit Service

Hang it from the hook of any hoisting rig—derrick, traveling crane, mono-rail hoist, locomotive crane or incline boom unloader—plug in the conductor cable, and the Hayward Electric Motor Bucket is ready to dig ashes from the ashpits, or to handle coal, sand, gravel or other bulk material.

Throw over the controller handle—the bucket opens. Reverse the handle—the bucket closes. It bites a "capacity" load; then the dump is made just when and where you want it—quickly or gradually.

These are but some of the features which make the Hayward Electric Motor Bucket especially applicable for service on railroads, in steel mills, foundries, chemical and fertilizer plants, and in many other industries.

ASK FOR CATALOG 45



Clam Shell Bucket

Orange Peel Bucket

Hayward Clam Shell and Orange Peel Buckets are available in many sizes and for meeting all sorts of widely varying digging and rehandling requirements. All blades are fitted with replaceable steel shoes, and every working part is protected by removable bushings and bearings which may be replaced on the job should wear develop.

OUR BULLETINS WILL INTEREST YOU
WRITE US

THE HAYWARD COMPANY

Builders of Digging Machinery

50 Church Street New York, U. S. A.

2005-T

O. S. DEPENDABLE

LOCOMOTIVE CRANES

Orange Peel and Clam Shell Buckets are built to successfully handle materials under all conditions. Their popularity is evidenced by the demand that has always taxed the capacity of our factory to the utmost.

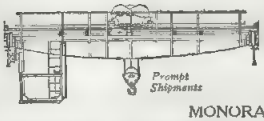
Catalog No. 18 contains valuable information and is mailed upon request.

ORTON & STEINBRENNER CO.

Offices: Chicago, Ill.

Factory: Huntington, Ind.

ERIE ELECTRIC TRAVELING

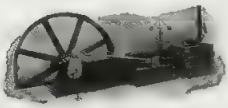


Cranes

ELECTRIC HOISTS

MONORAIL SYSTEMS

STEAM ENGINES—Corliss Slide Valve Vertical



SIMPLE AND COMPOUND BELTED OR DIRECT CONNECTED.

BOILERS of All Types Including

OSWEGO

Water Tube Boilers

Internally fired and self-contained. Occupies smallest space per Horse Power of any boiler built. No brick setting. Straight tubes. Most efficient heating surface.

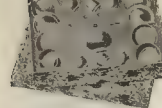
Write for New Bulletin No. 2

A. D. GRANGER CO.

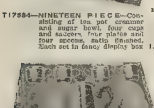
15 PARK ROW, NEW YORK

Decorated and Plated Toy Tea Sets

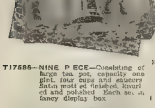
Aluminum Sets—Continued



17584—NINETEEN PIECE—Consisting of tea pot, creamer and sugar bowl, four cups and saucers, four plates and four spoons, nicely finished. Each set in fancy display box 1.20



17585—NINE PIECE—Consisting of large tea pot, capacity one gint, four cups and saucers. Satin proof or finished. Knurled and polished. Each set in fancy display box 1.75



17586—EIGHT PIECE—Cooking set, consisting of one stew pan, sauce pan, pudding pan covers, kettle, preserving kettle, dish pan, frying pan and bread pan, all finished. Each set packed in fancy decorated box, size 19x9 inches 1.20

Nickel Plated Tin Tea Sets

17571—NICKEL PLATED ENGRAVED CHILD'S SET—Consisting of tea, sauce and plate. Packed 1 dozen in box 2.44

17569—NICKEL PLATED ENGRAVED TEA SET—Consisting of tea pot, creamer, sugar bowl, 6 cups and saucers, 6 tea plates, 6 tea spoons, 1 slop bowl, size 10x12 inches 7.25

17568—NICKEL PLATED ENGRAVED TEA SET—Consisting of flat-bottom round tea pot, high top sugar bowl, covered tea pot and creamer. Each set in display box, size 10x14 inches 9.00

17570—NICKEL PLATED ENGRAVED TEA SET—Consisting of one full size, six large cups and saucers, covered tea pot and creamer. Each set in display box, size 10½x17 inches 4.33

Domestic Decorated Tin Tea Sets

17562—TOY TEA SETS—Decorated with children designs, consisting of Tea Pot and two cups and saucers. Each set in fancy display box, size 4x9x3½ inches. ½ dozen sets in package 1.00

17580—TOY TIN TEA SETS—Right, decorated with juvenile designs, consisting of tea tea cups and saucers, tea pot and creamer. Each set in display box, 6x9 inches. ½ dozen sets in package 1.80

17563—TOY TIN TEA SETS—Decorated with bright colored designs, consisting of four cups and saucers, and covered tea pot. Each set in display box, size 8½x11½ inches. ½ dozen sets in package 3.52

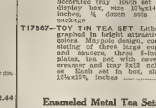
17564—TOY TIN TEA SET—Fancy Decorated Design. Assigned children at play; consisting of large tea pot and creamer, two large cups and saucers, with decorated tray. Each set in display box, size 11x15 inches. ½ dozen sets in package 9.25

17565—TOY TIN TEA SET—Lithographed in variety of colors and designs of children at play, consisting of four cups and saucers, tea pot and cover, creamer and fancy decorated tray. Each set in display box, size 11½x15½ inches. ½ dozen sets in package 7.65

17566—TOY TIN TEA SETS—Lithographed in variety of colors and designs of children at play, consisting of four cups and saucers, tea pot and cover, creamer, and large decorated tray. Each set in display box, size 13½x18½ inches. ½ dozen sets in package 9.90

17567—TOY TIN TEA SET—Lithographed in bright attractive colors and novel design, consisting of four cups and saucers, three 6-inch plates, tea pot with cover, creamer and tray full size. Each set in box, size 15½x18½ inches 11.76

Enameled Metal Tea Sets



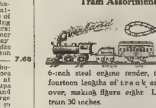
17577—Two cups and saucers, tea pot with cover, butter dish, sugar bowl, tray size 13x18½ inches. Each set in display box, size 13x18 inches 4.80

17578—Four cups and saucers, tea pot, sugar bowl and creamer. Each set in display box, size 10x12 inches 7.20

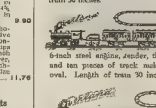
17579—Three cups and saucers, coffee pot and cover, sugar bowl and tray, size 8½x13 inches. Each set in display box, size 8½x12 inches 6.00

Train Assortment

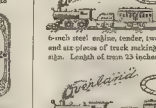
6-inch steel engine tender, two cars, fourteen lengths of track and crossover, making figure eight. Length of train 30 inches.



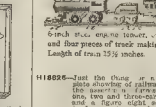
6-inch steel engine, tender, three cars and ten pieces of track making oval. Length of train 30 inches.



6-inch steel engine, tender, two coaches and six pieces of track making oval design. Length of train 23 inches.



6-inch steel engine tender, one coach and four pieces of track making circle Length of train 15½ inches.



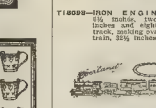
H18825—Just the thing for a complete showing of railways, as the assortment includes a fine, two and three-car train and a figure eight set. A good assortment for the dealer stocking trains for the holiday trade. Everything in the assortment is packed in one of four kinds, packed in three sizes, weight, about 40 lbs. 21.00

Mechanical Train Outfit

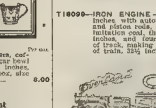
OVERLAND FLYER ENGINES are guaranteed for six months. Locomotives and drive wheels are made of cast iron, iron castings, covered with two coats of black enamel. Boilers, cabs and trimmings are of steel and are varnished for six months by the manufacturer. Tenders and couches are made of lithographed steel, highly finished in a variety of colors.

T18087—IRON ENGINE—Length, 6¾ inches, 1 car 6½ inches long, and 8 pieces track, making circle length of train, 17 inches, each in box 1.37

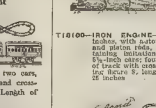
T18089—IRON ENGINE—Length 6½ inches, two cars 6½ inches and eight pieces of track, making oval length of train, 24½ inches 1.75



T18099—IRON ENGINE—Length, 7 inches, with automatic brake and piston rods, tender with imitation coal, three cars 6½ inches, and fourteen pieces of track, making oval length of train, 34½ inches 2.33



T18100—IRON ENGINE—Length, 7 inches, with automatic brake and piston rods, tender containing imitation coal; two 6½-inch cars; fourteen pieces of track with crossover, making figure 8, length of train 36 inches 2.50

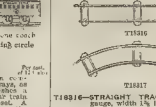


T18101—IRON ENGINE—Length, 7 inches, with brake and piston rods, tender containing coal; two 6½ inches with swivel trucks and eight wheels each, 12 pieces of track, length of train, 36 inches 3.80

T18102—IRON ENGINE—7 inches with automatic brake and piston rod, tender containing imitation coal, two 6½-inch cars, 14 pieces of track and pair of switches, making a combination oval and round design, length of train, 36 inches 9.75

Extra Track for Mechanical Trains

T18316



T18317

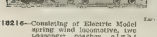
T18316—STRAIGHT TRACK—No. 0 gauge, width 1⅜ inches from center to center of rail, length, 10½ inches ..... .80

T18317—CURVED TRACK—No. 0 gauge, width 1⅜ inches from center to center of rail, length, 10½ inches ..... .80

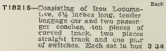
PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Mechanical Trains, Steam and Hot Air Engines

Ives' Mechanical Trains



T18216—Consisting of Electric Model spring wind locomotive, two passenger coaches, eight pieces curved track and four pieces track. Each set in box..... 3.36



T18215—Consisting of Iron Locomotive, 6¾ inches long, tender baggage car and two passenger coaches, ten pieces of curved track, two pieces straight track and one pair of switches. Each set in box 3 24

Freight Train

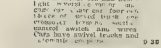
T18217—Consisting of Iron Locomotive with brake, tender, merchandise car, gravel car, caboose, eight pieces curved track, four pieces straight track and adjustable brake section. Each set in box. 3 85

Electric Trains

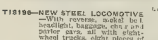
T18193—NEW STEEL LOCOMOTIVE—With sides, buff and imitation whistle, baggage car, chair car, seven pieces curved track, terminal section and control switch and wire. Each set in box 5 25

T18194—NEW STEEL LOCOMOTIVE—With nickel buff and headlight, baggage car, chair car, eight pieces of curved track, plunger car, four pieces of straight track, terminal section and control switch and wire. Each set in box 7 00

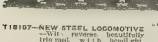
T18195—NEW STEEL LOCOMOTIVE—With nickel buff and headlight, baggage car, chair car, observation car, seven pieces of curved track, four pieces of straight track, terminal section and control switch and wire. Each set in box 9 35



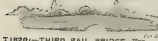
T18196—NEW STEEL LOCOMOTIVE—With reverse, nickel buff, headlight, baggage, chair and observation cars, eight pieces curved track, eight pieces of straight track, one terminal section and control switch and wire 10.00



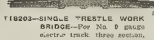
T18197—NEW STEEL LOCOMOTIVE—With reverse, nickel buff, headlight, baggage, chair and observation cars, eight pieces curved track, eight pieces of straight track, one terminal section and control switch and wire 11 75



T18201—THIRD RAIL BRIDGE—For No. 6 gauge electric track; two sections with mountain scenery, twenty-one inches long 10 65



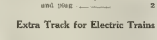
T18202—THIRD RAIL BRIDGE—For No. 2 gauge electric track, three sections, 21 inches long 1.30



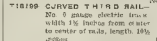
T18203—SINGLE TRESTLE WORK BRIDGE—For No. 0 gauge electric track; three section, 21 inches long 1 95

T18198—TRANSFORMER — For 110 volts, 60 cycles alternating current. This contrivance reduces the house current to the proper voltage to run any Ives' electric trains. Can be used for house bells, toy motors and also Christmas tree light outfit operates on alternating current only. Put up in handsome enameled iron shell, complete with cord and plug 2 60

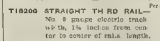
Extra Track for Electric Trains



T18199—CURVED THIRD RAIL—No. 0 gauge electric track, width 3½ inches from center to center of rails, length 10½ inches 1 40

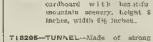


T18200—STRAIGHT THIRD RAIL—No. 0 gauge electric track width 3½ inches from center to center of rails, length 10½ inches 1 40



T18204—TUNNEL—Made of strong cardboard with beautiful mountain scenery, height 8 inches, width 6½ inches 8.64

T18205—TUNNEL—Made of strong cardboard with beautifully painted scenery, with trees in the foreground length 24 inches height 8 inches 1.30



T18206 T18207

T18206—DANGER SIGNAL—6½ inches high 3.90

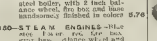
T18207—SIGNAL — With one arm, height 9 inches 3.90

Steam and Hot Air Engines

T18178 T18179 Per doz.

T18179—STEAM ENGINES—Blue steel boiler, with 3 inch balance wheel, fire box and base handsomely finished in colors 5.76

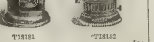
T18180—STEAM ENGINES—Blue steel boiler, with 3 inch balance wheel, fire box and base handsomely finished in colors 9 36



T18181 T18182

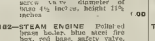
T18181—STEAM ENGINE—Heavy steel boiler, iron fire box and mounted brass, bright 18 inches high, with 3½ inch balance wheel and water gauge cylinder 3 inches diameter of base 4½ inches, height 7½ inches 7 00

T18182—STEAM ENGINE—Polished brass boiler, blue steel fire box, red base, safety valve, balance wheel and water gauge. The base has a drip arrangement to take engine condensation, and is highly polished and on a fine finish. Height, inches 2 00

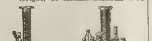


T18183 T18184

T18183—STEAM ENGINE—Polished brass boiler, fire box with cast iron base, finished in various colors, cylinder and valve polished, large cylinder with reversing lever, height 15¾ inches, length 9 inches 2.50



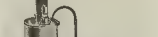
T18184—STEAM ENGINE—Reversible, polished brass boiler, fire box and base finely accented in colors, double brass safety valves, balance wheel water gauge and governor for valving or lowering lever balance wheel can be made to go forward or backward. Height 13 inches 2.66



T18184

Hot Air Engine

T18184—CALORIC ENGINE—Upright Caloric type hot air engine mounted on a substantial base and all parts are firmly put together. The main cylinder and displacer are made of accurately drawn brass shells in which a plunger is fitted so as to work air tight. The chief advantage of this engine is that no heat or water is used and in consequence no steam is used. Diameter of base 4½ inches, height 9½ inches. Each 1.10



T18185 Each

T18185—HORIZONTAL STEAM ENGINE—Boiler is polished blue steel, with fire box and base decorated in gray and vermilion, retaining curves balance wheel, has turned finished face and shaft carries a small pulley to which a belt may be attached. Height 4¾ inches, length 8 inches 1 40

T18186 Each

T18186—STEAM ENGINE—Boiler is polished blue steel, walking beam, upright and engine deck polished nickel. Balance wheel has turned finished face which carries crank pin, pulley to which a belt may be attached. Length 10¾ inches. Height 9¼ inches 2 10

T18187 Each

T18187 STEAM ENGINE.—Highly polished brass boiler, trimmed with steam dome, whistle, safety valve, slide valve steam chest, oscillating cylinder and governor, automobile type frame, all parts interchangeable. Size 8¾x8¾ inches, height 5 inches 3 90

T18188 Each

T18188—STEAM ENGINE — Large boiler, nickel plated, cast iron base, horizontal engine with two drive wheels, whistle, water gauge and governor. Size 7x10 inches 5.85

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

kinds of steel or wood railroad freight cars, including box, flat, gondola, ballast, refrigerator, industrial, etc., either standard or narrow gauge. We constructed 2,000 box cars for U. S. K. A. We designed and built practically all logging cars and trucks used in vast Pacific Coast forests. We control and manufacture "Seesom" Lowering Car, which makes switchbacks unnecessary. Facilities especially adapted to repairing (railroad) freight cars. We also build trailers for motor trucks and tractors, featuring well known "Universal" Semi-trailer for motor logging and other heavy duty service and 4-wheel trailer for tractor logging. Plants: Renton, Washington, and Portland, Oregon. We solicit inquiries.

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Ralston Steel Car Co., Columbus, O.
Shippers' Car Lines, Inc., 165 Broadway, New York.....See Advt. Index, Page 7
Standard Steel Car Co., Pittsburgh, Pa.
Stewart, H. W., 127 N. Dearborn St., Chicago.....See Advt. Index, Page 7
Western Steel Car & Foundry Co., Pittsburgh, Pa.

Cars, Freight, Wood, Steam Railway

(Builders of wood superstructures for the various cars enumerated under Cars, Freight, Steel, Steam Railway)

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Batavia Car Works, Inc., Batavia, N. Y.
Beck & Babb, 29 S. La Salle St., Chicago. .....See Advt. Index, Page 7
Carey, Geo. K., 30 Broadway, New York. .....See Advt. Index, Page 7
Dunkle Co., Arthur J., New York.
General American Car Co., Harris Trust Bldg., Chicago. . See Advt. Index, Page 7
Steel under frames for Wood Car Superstructures.
Georgia Car & Locomotive Co., Ridge Ave. and Southern Ry., Atlanta, Ga. See Page 7
Haskell & Barker Car Co., Inc., Michigan City, Ind.
International Car Co., 1304 First Nat'l Bank Bldg., Chicago...See Advt. Index, Page 7
Inter-State Car Co., Massachusetts and Brightwood Aves., Indianapolis, Ind. .....See Advt. Index, Page 7
Keith Car & Mfg. Co., Sagamore, Mass.
Kilby Car & Fdry. Co., Anniston, Ala.
Lenoir Car Works, Lenoir City, Tenn.
Lewis & Co., Henry, Commercial Trust Bldg., Philadelphia, Pa.
Mt. Vernon Car Mfg. Co., Mt. Vernon, Ill. .....See Advt. Index, Page 7
Pacific Car & Foundry Co., 214 Alaska Bldg., Seattle, Wash.. . . . See Page 7
Pressed Steel Car Co., Pittsburgh, Pa...Page 7
Standard Steel Car Co., Pittsburgh, Pa.
Western Steel Car & Foundry Co., Pittsburgh, Pa.
Wilson & Company, H. H., Philadelphia, Pa.

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Cars, Hand and Push

American Car & Foundry Co., St. Louis, Mo.
Buda Company, The, 606 Railway Exchange, Chicago.....See Advt. Index, Page 7
Dewey Supply Corporation, 18 W. 34th St., New York. . . . See Advt. Index, Page 7
Fairbanks, Morse & Co., 900 S. Wabash Ave., Chicago.....See Advt. Index, Page 7
Fairmont Gas Engine & Railway Motor Car Co., 427 N. Main St., Fairmont, Minn. (heavy and light)...See Page 7
Gerlock, H. W., Huntingdon, Pa.
Hunt Co., Inc., C. W., West New Brighton, N.Y.
Lakewood Engineering Co., The, Cleveland, O. .....See Advt. Index, Page 7
Lansing Company, Lansing, Mich.
Light Railway Equip. Co., Philadelphia, Pa.
Mechanical Mfg. Co., The, Chicago.
Mudge & Company, 410 Railway Exchange, Chicago.....See Advt. Index, Page 7
Obenberger & Son Co., Jos., 125 Barclay St., Milwaukee, Wis. . . . .Page 7
Pidgeon-Thomas Iron Co., 94 W. Court St., Memphis, Tenn..See Advt. Index, Page 7
Ramapo Iron Works, Hillburn, N. Y. (Push)
Southern Hardware & Supply Co., St. Louis, Mo .....See Advt. Index, Page 7
Standard Supply & Hardware Co., Inc., New Orleans, La. . . . See Advt. Index, Page 7
Woodward, Wight & Co., Ltd., New Orleans, La.
Youngstown Steel Car Co., The, Niles, O. ..... See Advt. Index, Page 7

Cars, Hot Metal or Slag

American Car & Foundry Co., St. Louis, Mo.
Atlas Car & Mfg. Company, The, Cleveland, Ohio.
Cambria Steel Co., Philadelphia, Pa.
Falk Company, The, Milwaukee, Wis.
General American Car Co., Harris Trust Bldg., Chicago...See Advt. Index, Page 7
Makers of a specially designed car for the safe and convenient interplant transportation of HOT INGOTS.
Gerlock, H. W., Huntingdon, Pa.
Hunt Co., Inc., C. W., West New Brighton, N.Y.
Lakewood Engineering Co., The, Cleveland, O.....See Advt. Index, Page 7

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Two well equipped plants

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United Engr. & Fdry. Co., Pittsburgh, Pa.
Western Steel Car & Foundry Co., Pittsburgh, Pa.
Whiting Corporation, Harvey, Ill.
Youngstown Steel Car Co., The, Niles, O.
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Cars, Industrial, Narrow Gauge, for All Purposes

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American Car & Steel Co., Mo.
Atlas Car & Mfg. Company, The, 1140 Ivanhoe Rd., Cleveland, O......**See Page 7**
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Cambria Steel Co., Philadelphia, Pa.
Conkey & Company, H. D., Meadow Ill
Continental Car Co. of Am., Louisville, Ky
Dewey Supply Corporation, 18 W. 34th St., New York.....**See Advt. Index, Page 7**
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Hubbard-Floyd Co., Inc., The, 1112 Grand Central Palace, New York See Page 7
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Jackson & Church Co., Saginaw, Mich. (Brick).
Kilbourne & Jacobs Mfg. Co., Columbus, O.
Koenig & Co., Edward G., 31 W. Kinzie St., Chicago See Advt. Index, Page 7
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Link-Belt Co., Chicago and Philadelphia
Mt. Vernon Car Manufacturing Co., Mt. Vernon, Ill See Advt. Index, Page 7
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Sackett Screen & Chute Co., H. B., Chicago.
Steele & Sons Co., J. C., Statesville, N. C.
Stuebner, Geo. L., Long Island City, N. Y.
United Iron Works Co., Kansas City, Mo.
West Distributing Co., 166 Washington St., New York See Advt. Index, Page 7
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General American Car Co., Harris Trust Bldg., Chicago.....See Advt. Index, Page 7
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Lakewood Engineering Co., The, Cleveland. See Advt. Index, Page 7
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Obenberger & Son Co., Jos., Milwaukee, Wis.
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Russel Wheel & Foundry Co., Detroit Mich.
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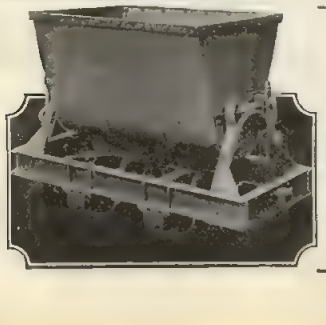

Built to Higher Standards

There are no secret processes in the manufacture of narrow gauge industrial cars. Superiority can come only from the use of better materials, from more careful workmanship, from rigid inspection and from long experience. And so, by maintaining higher standards has been built the good name of all products bearing the

OBENBERGER

For 25 years Obenberger industrial cars, Clam Shell Buckets and Dumping Buckets have faithfully served leading contracting and engineering concerns on many of the largest excavating and construction jobs throughout the country. Ruggedly built with strength to spare, they "stand the gaff" of years of hard service.

Write today for illustrated catalog describing the complete Obenberger line

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RUBBER BALLS.

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE.

SOLID, GRAY BANDED.

A very live ball with an extraordinary good bounce, natural gray color.

	Net per doz.
NO. 5—Diameter 1½ inch	$0.84
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RUBBER SPONGE BALLS

RUBBER SPONGE BALL

Will Bounce Regardless of Puncture. They Last Seven Times as Long.

The everlasting hand or catch ball. Something original and new to the trade. Made practically indestructible by a heavy wall of "Rubber Sponge." This ball will bounce regardless of puncture or even if slightly torn. Produced by an entirely new process of manufacture, it loses nothing in quality but gains everything in length of life. Is more lively than the ordinary inflated ball, rebounds lightly and lasts indefinitely

NO. 200—Diameter 2½ in. Net per dozen $5.50

ONE DOZEN IN A CARTON.

PENNANT BALLS.

INFLATED

White embossed surface, excellent bounder, raised colored design, size 2½ inches.

	Net per doz.
NO 238N Nebraska	$2.50

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"SCOUTO" AND "CAMPO" BALLS.

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White Embossed Surface, Excellent Bounder, Raised Colored Letters Around Circumference

These inflated rubber balls are for Boy Scouts bearing motto "Do a good turn daily" and Camp Fire Girls bearing motto "Be happy, give service," assorted in the dozen.

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NO. 238SC — Size 2⅜ in., assorted, 8 "Scouto" and 4 "Campo" in the doz.	$2.50

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"PROFESSIONAL CLUB" BAT ASSORTMENT.

Assortment costs $13.05 (no discount), with display stand free, and nets $21 00, paying a profit of about 40%.

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The contents of this assortment are as follows:

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1/6 doz. No. 100 "Pagoma" League Bats	$2 00
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1/6 doz No. 40-TC (Ty Cobb) Louisville Slugger	3 00
1/6 doz. No. 40-JD (Jack Daubert) Louisville Slugger	3.00
1/6 doz. No. 40-TS (Tris Speaker) Louisville Slugger	3.00
1/12 doz. No. 40 BR (Babe Ruth) Louisville Slugger	3 00
Total 2 doz. Bats in Assortment. Total retail value	$49 00

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NO. 120 — Professional Club Bat Assortment, INCLUDING STAND FREE.	$57.50

SPECIAL NOTICE.

If the above assortment is not satisfactory, we will furnish free the above bat stand with an initial order for 2 dozen assorted bats, not including 25 or 50c sellers.

WHITE INFLATED.

Assorted Moulded Designs.

Best selling line of inflated balls, a real "white" compound, neither gray nor creamy.

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ONE DOZEN IN A BOX

WHITE INFLATED, SMOOTH.

A real white compound, neither gray nor creamy.

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HAMMERS.

PAGOMA

These Hammers are Drop Forged in One Piece From the Highest Grade Crucible Bar Hammer Steel.
They Are Carefully Tempered by a Special Process and Every Hammer is Hand Ground, Polished and Tested Before Leaving Factory.
Hardened Faces, Specially Tempered Claws, Selected Second Growth Hickory Handles.
Fully Warranted.

Plain Poll, Adze Eye, Highly Polished, White Second Growth Hickory Handles.

NOS.	1	1½	2	3
Weight less handle	20	16	13	7 oz.
Weight per dozen	22	19	16	12 lbs.
List per dozen	$9.00	8.50	8.00	7.50
Net per dozen	$33.12	31.44	30.00	28.80

HALF DOZEN IN A BOX

Ripping Hammer. Bell Poll Adze Eye, Highly Polished, White Second Growth Hickory Handles.

NO.	81½
Weight less handle	1 lb.
Weight per dozen	19 lbs.
List per dozen	$8.50
Net per dozen	$31.44

HALF DOZEN IN A BOX.

Hand Made Finish, Plain Poll, Adze Eye. Polished Face, White Second Growth Hickory Handles.

NO.	1½B
Weight less handle	1 lb.
Weight per dozen	19 lbs.
List per dozen	$8.50
Net per dozen	$31.44

HALF DOZEN IN A BOX

Bell Poll, Adze Eye, Highly Polished, White Second Growth Hickory Handles.

NOS.	11	11½	12	13
Weight less handle	20	16	13	7 oz.
Weight per dozen	22	19	16	12 lbs.
List per dozen	$9.00	8.50	8.00	7.50
Net per dozen	$33.12	31.44	30.00	28.80

HALF DOZEN IN A BOX

Octagon Neck and Poll, Nickel Plated. Ebonized Second Growth Hickory Handles.

NOS.	501N	501½N
Weight less handle	20	16 oz.
Weight per dozen	22	19 lbs.
List per dozen	$15.50	15.00
Net per dozen	$49.20	47.52

HALF DOZEN IN A BOX.

Hand Made Finish, Bell Poll, Adze Eye, Polished Face, White Second Growth Hickory Handles

NO.	11½B
Weight less handle	1 lb
Weight per dozen	19 lbs
List per dozen	$8.50
Net per dozen	$31.44

HALF DOZEN IN A BOX.

Ripping Hammer. lain Poll. Adze Eye, Highly Polished, White Second Growth Hickory Handles.

NO.	81½
Weight less handle	1 lb
Weight per dozen	19lbs.
List per dozen	$8 50
Net per dozen	$31 44

HALF DOZEN IN A BOX.

Brick Hammer. Hand Made Finish, Adze Eye, Square Face, White Second Growth Hickory Handles.

NO.	1
Weight less handle	24 oz.
Length over all	11½ in.
Weight per dozen	25 lbs.
List per dozen	$14.00
Net per dozen	$31.44

HALF DOZEN IN A BOX.

"Pagoma" fulfills every requirement for quality

HATCHETS.

PAGOMA

"PAGOMA" Tools Have "Quality" Merits Strictly Their Own, and Represent Perfection in Quality and Workmanship.

HAND MADE FINISH.

Cutting Edge is of the Highest Grade Crucible Tool Steel, Carefully Tempered and Ground Sharp, Full Polished and Etched.

Select Second Growth Hickory Handles, Carefully Driven.

FULLY WARRANTED.

CLAW.

Extra Tool Steel, Black Finish.

		Net per doz.
NO. 321—3½ in. bit, weight 20 lbs. per doz.	List per doz. $9 00	$38.00
NO. 322—3¾ in. bit, weight 23 lbs. per doz.	List per doz. 9 50	39.50

WEIGHTS GIVEN DO NOT INCLUDE HANDLES.
HALF DOZEN IN A BOX.

BROAD.

Extra Tool Steel, Black Finish.

		Net per doz.
NO. 302—4½ in. bit, weight 21 lbs. per doz.	List per doz. $11 50	$48.40
NO. 303—5 in. bit; weight 29 lbs. per doz.	List per doz 13.00	54.80
NO. 304—5½ in. bit; weight 32 lbs. per doz.	List per doz. 14.50	61.00

WEIGHTS GIVEN DO NOT INCLUDE HANDLES.
HALF DOZEN IN A BOX.

SHINGLING.

Extra Tool Steel, Black Finish

		Net per doz.
NO. 311—3½ in. bit; weight 14 lbs. per dozen.	List per dozen $8 00	$34.80
NO. 312 3¾ in. bit; weight 17 lbs. per dozen.	List per dozen 8.50	36.30

WEIGHTS GIVEN DO NOT INCLUDE HANDLES.
HALF DOZEN IN A BOX.

LATHING.

Extra Tool Steel, Black Finish.

		Net per doz.
NO. 351 2½ in. bit; weight 11 lbs. per dozen.	List per dozen $8 00	$34.80
NO. 352 2¾ in. bit; weight 18 lbs. per dozen.	List per dozen 8.50	36.30

WEIGHTS GIVEN DO NOT INCLUDE HANDLES.
HALF DOZEN IN A BOX.

"PAGOMA" is supremacy.

HATCHETS.

PAGOMA

FULL POLISHED.

Cutting Edge is of the Highest Grade Crucible Tool, Carefully Tempered and Ground Sharp. Full Polished and Etched. Select Second Growth Hickory Handles, Carefully Driven.

FULLY WARRANTED

SHINGLING.

WITH SHINGLE GAUGE.

Finest Grade, Solid Tool Steel; with Positive Gauge—by ¼ inches, from 4¼ to 5½ in.

Net per doz.

NO. 144—Size 1, width of bit 2¼ in., milled head, 1¼ in. square, 81 points, weight 1 lb. without handle, weight 20 lbs. per dozen . . . List per dozen $21 00 **$54.00**

HALF DOZEN IN A BOX.

LATHING

HAINES PATTERN.

NO	151
Size	1
Width cut	2 in
Weight per dozen	17 lbs.
List per dozen	$14.50
Net per dozen	**$43 40**

HALF DOZEN IN A BOX

LATHING.

UNDERHILL PATTERN.

Nine Row, Milled Head.

NO	171
Size	1
Width cut	2½ in.
Weight per dozen	19 lbs.
List per dozen	$16 50
Net per dozen	**$50.40**

HALF DOZEN IN A BOX

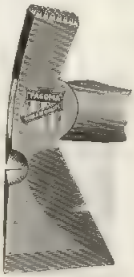
BOX.

OVAL HEAD.

NO.	191
Size	1
Width cut	2½ in.
Weight per dozen	16 lbs.
List per dozen	$16.00
Net per dozen	**$50.40**

HALF DOZEN IN A BOX.

PRODUCE.



LOUISIANA PATTERN

NO.	181
Size	1
Width cut	2½ in.
Weight per dozen	12 lbs.
List per dozen	$12 00
Net per dozen	**$44.00**

HALF DOZEN IN A BOX.

BARREL.

BOSTON PATTERN.

NO.	161
Size	1
Width cut	2½ in.
Weight per dozen	16 lbs.
List per dozen	$12 00
Net per dozen	**$45.80**

HALF DOZEN IN A BOX.

"Pagoma" is your strongest argument of quality

HATCHETS.

PAGOMA

PAGOMA HATCHETS.

FACTORY—A most modern and well equipped factory, employing only workmen of long experience who are skilled in making hatchets.

MATERIAL "PAGOMA" hatchets are made from the very highest grade steel of a special analysis for both the body and cutting edge. The bits are inserted with Extra Quality tool steel which is far superior to overcoat bits.

FORGING "PAGOMA" hatchets are all Hand Forged, properly ground, and are all uniform in shape and sizes.

TEMPERING "PAGOMA" hatchets are tempered by expert workmen of long and continued experience, and the greatest care is exercised in this important department.

INSPECTION "PAGOMA" hatchets are critically inspected in every stage of their manufacture which assures us of receiving perfect tools.

HANDLES "PAGOMA" hatchets are driven with the best Second Growth WHITE HICKORY HANDLES, well seasoned, highly polished handles, are hung properly and wedged securely.

QUALITY "PAGOMA" hatchets are made with the view of furnishing the trade with the best and most substantial tool it is possible to make.

EVERY "PAGOMA" HATCHET IS FULLY WARRANTED.

GUARANTEE CERTIFICATE

"PAGOMA" on tools or cutlery is a sufficient guarantee of quality.

Great care is exercised in the selection of goods under this brand. Sold with an unconditional guarantee against defects in material and workmanship.

PAXTON AND GALLAGHER CO.
WHOLESALE HARDWARE
OMAHA

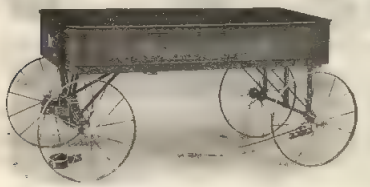
EXPRESS WAGONS.

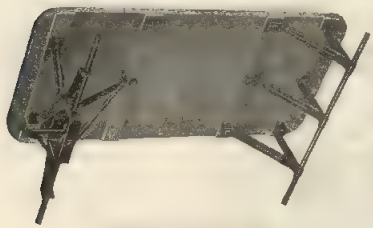
PAGOMA

Our "Pagoma" Express Wagon is more substantially constructed and of a heavier gauge steel than any express wagon on the market. It is most beautifully finished and is much better than the ordinary express wagon in every way.

The small additional first cost is many times made up in the increased durability.

FULLY WARRANTED, HIGHEST GRADE WAGON MADE.





COASTER WAGON STYLE.
FRONT AND REAR WHEELS SAME SIZE.

Bodies—Extra heavy gauge sheet steel, outside painted blue with gold stenciling, inside painted red. **Gears**—Black baked enamel. If it were possible to make a more staunch and lasting gear we would have it made. It will stand more rough service and outlive any steel gear on the market. **Wheels**—Black baked enamel; extra heavy construction with rims a full $1\frac{1}{16}$ in wide by a full $\frac{7}{8}$ in. thick. Do not be misled by width of rims alone. There must be thickness as well. It is the weight of the rim that signifies the strength.

Furnished regularly with bent handle painted red, with loop grip enameled black; polished and lacquered brass hub caps, and washer-headed copper plated bolts.

DISTINCTIVE FEATURES

Heavy Barrel Hubs, much heavier than used on the so called "high grade" wagons of other makes.

Heavy Rim Stock, being $1\frac{1}{4}$ in. wide by $\frac{7}{8}$ in. thick on all sizes, which is much heavier than used on other high gradewagons.

Extra Heavy Spokes, being No 10 gauge while No. 12, or two gauges lighter spoke, is commonly used on all other high grade wagons.

Extra Strong Gear. Having double back brace to front axle, relieving all strain on the king bolt, and permanently holding bolster in perfect alignment. An unequaled gear.

Extra Heavy Bottom Board, having four cleats in addition to the unequalled bottom board, which is $\frac{7}{8}$ in. thick, of selected well seasoned and kiln-dried lumber, tongued, grooved, and glued and dressed on both sides.

Washer-headed Bolts, copper plated, used on inside of box, hubs are all wired and of extra heavy sheet steel.

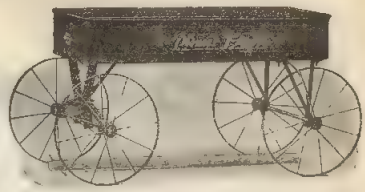
Bent Handles, wood, painted red to match inside of body, and steel loop enameled black.

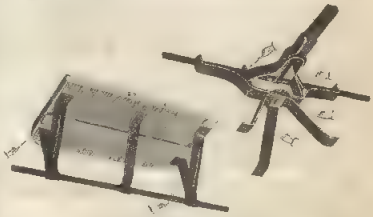
NOS	31	33	35
Size of body	2x26	14x30	16x36 in.
Size of wheels	10	11	12 in
Weight per dozen	171	216	330
List per dozen	$67 84	80.32	120 82
Net per dozen	$67.84	80.32	120 82

ONE-SIXTH DOZEN COMPLETE, WITH HANDLE AND ALL GEARS, IN A SEALED FIBRE CARTON.

We cannot break cartons.

STANDARD.





COASTER WAGON STYLE.
FRONT AND REAR WHEELS SAME SIZE.
Steel Body and Wheels, Wood Bottom, Beautifully Finished, Reinforced Braces, Very Strong.

Bodies, outside painted red with gold stenciling; inside green. **Gears and wheels,** baked black enamel, small sizes have two rear braces, large size have three rear braces.

NOS.	04	02	1
Size of body	8x18	10x22	12x26 in.
Size of wheels	6	8	10
Weight per dozen	60	84	138
List per dozen	$31.06	38 30	55 86
Net per dozen	$31.06	38.30	55.86
Number in carton	1	2	2

We cannot break cartons.

COASTER WAGONS.

SMALL SIZE WAGON.

SHEBOYGAN "DANDY"

Iron hub wheels, welded tires. As name implies, a dandy small size wagon. Body is natural finish, edged in red with green trimmings, neatly stenciled in black. Wheels are painted green with golden yellow stripes.

	Net each
NO. 360—Size of body 12x28 in., 8in. wood hub wheels, welded tires, $\frac{7}{8}$ in axle	$7.50
Net per dozen, in dozen lots	84.00

TWO IN A CRATE.

We cannot break crates.

COASTER WAGONS.

"AUTO-WHEEL" COASTER.

"The Advertised Line."

ROLLER BEARING
Speedy, Sturdy and Durable.

The Auto-Wheel Coaster Wheel is of standard automobile type. The hub and bushings are of cold rolled pressed steel. The spokes are of well-seasoned, second-growth white ash ovaled, mitered and machine riveted in hub, with bushing turned over ends. The felloe is ¼ x 2 inch, with tire ⅛ x 1 inch flat steel, electrically welded, and shrunk on felloe by hydralic pressure. It can never shrink loose or come off, and insures a perfectly true wheel. The bearings are hard-drawn Bessemer steel rollers, running on cold-drawn absolutely-true steel axles. Our specially designed cap protects hub and bearings from dust and grit, and a special washer prevents sliding out and consequent wear on roller bearings. Cotter Pins are used instead of nuts because they are equally efficient and more easily replaced if lost.

Finish is two coats of bright vermilion, striped in black, and varnished. **King Bolt** is ¾ inch. **Iron Parts** japanned and baked. **Bolsters** of well seasoned hard maple and handsomely shaped and ironed **Bed** of well seasoned, second-growth White Ash, finished in the natural grain, filled and varnished with special wear-resisting compound, which has made our goods famous as the most durably finished in the market **Box** mortised, glued and nailed to insure strong, durable construction, see illustration, and ornamentation in bright vermilion gives an unusually attractive body. The whole body is thoroughly braced and easily removed.

This Coaster has a special device for instantaneous removal and secure replacement of box. This is accomplished by a release arranged on the principle of a window fastener, and a turn of the finger opens or closes it.

It may be used as a platform wagon, for two or three boys at a time, or a boy coast "bellywhacker" by himself

Quick Detachable Bodies.

NOS.	11A	22A	33A
Size of body	14x32	14x34	16x38 in.
Wheels	8	10	10 in.
Weight per dozen	300	360	420 lbs
List per dozen	$138.00	150.00	166 00

Net each

NO. 11A—Less than four, 2 in a crate **$14.00**
Four or more **13.30**

NO. 22A Less than four, 1 in a crate **15.20**
Four or more **14 40**

NO. 33A—Less than four, 1 in a crate **16.90**
Four or more **15 90**

We cannot break crates.

"AUTO-WHEEL" CONVERTIBLE ROADSTER.

No. 52A as a Utility Wagon

"AUTO-WHEEL" CONVERTIBLE COASTER.

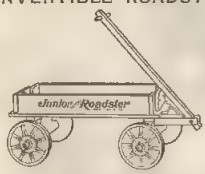
No. 52A as a Coaster.

The most useful boy's wagon ever devised. Turn up the sides and its a real coaster, turn them back and it's a regular roadster. Two wagons in one. Equipped with roller bearing, steel axles and hubs, dust proof hub caps. Substantially made, light running. Net each

NO. 52A—Size of body 14x34 in., wheels 10 in., weight per dozen 336 lbs. ..... List per dozen $161 00
Less than four **$16 50**
Four or more **15.50**

ONE IN A CARTON.

"JUNIOR" CONVERTIBLE ROADSTER.



No. 51A as a Roadster

No. 51A as a Coaster.

The Little Brother to the "Auto-Wheel" Convertible Roadster.

A convertible coaster for the little youngsters. Same construction throughout as the "Auto Wheel" Convertible Roadster, solid wheels Net each

NO. 51A Size of body 21x11 in., solid wheels 6 in spokes painted, weight 144 lbs. per dozen.... List per dozen $83.00
Less than four **$6.50**
Four or more **6.00**

TWO ONLY IN A CARTON.

NO. 50A -Size of body 17x9 in., 4½ in. solid wheels (plain), weight 72 lbs. per dozen. .....List per dozen $46 50
Less than six **$4.30**
Six or more **3.90**

THREE ONLY IN A CARTON.
We cannot break crates

"PAGOMA"—Sold only through dealers.

PARCEL WAGONS.

The children, too young to handle a coaster wagon, enjoy playing with a Parcel Wagon Wheels 6 and 4 in., solid wood, wood axle and T handle. Body painted green, striped and stenciled in golden yellow. Wheels red and decorated in golden yellow. All of wagon varnished

Net per doz.

NO. 280—Body 8¼x16x2¼ in., weight 70 lbs per doz... ..... **$27.00**

NO. 281—Body 8¼x20x2¼ in., weight 75 lbs. per doz. **30.00**

HALF DOZEN IN A CRATE.
We do not break crates.

CHILDRENS PLAY CARTS.

Constructed entirely of wood, decorated and varnished as cut shows. Strong enough to carry an adult, but light enough for a baby to handle.

Net per doz.

NO. 19 Size of box 5x9 in., 6 in. wheels **$11.00**
NO. 20 Size of box 6x11 in., 6in wheels **11.50**

TWELVE IN A CRATE

PAGOMA

These hammers are drop forged from the highest grade crucible bar hammer steel.

The rare tempered by a special process and every hammer is tested before leaving the factory.

FULLY WARRANTED

BALL PEIN MACHINISTS.

Octagon Pattern; Hardened Head and Pein.

POLISHED.

NOS	40	30	20	10	1
Size	4/0	3/0	2/0	0	1
Wt. less handle..	6	8	12	16	20 ozs.
Wt. per dozen .	8	10	14	16	21 lbs.
List per dozen	$12 00	12 00	12 00	12 50	12.50
Net per dozen	$23.52	23.52	23.52	24.24	26.16

NOS	12	13	14	15	16
Size	2	3	4	5	6
Wt. less handle.	1¼	1½	2	2½	2¾ lbs.
Wt per dozen..	24	27	30	33	36 lbs.
List per dozen..	$14.50	15.50	16.50	17.50	19.00
Net per dozen	$28.32	30 24	32.16	34 00	37 20

ONE-THIRD DOZEN IN A BOX

BALL PINE, SPECIAL STEEL.

AUTOMOBILE SPECIAL.

	Net per doz
NO. 50—Weight 12 ounces each	$8.20
NO. 51 - Weight 16 ounces each	9.00

HALF DOZEN IN A BOX

HAN—D

An all metal hammer and three screw drivers combined in one practical tool. The entire set is highly nickel plated and polished

	Net each
HAN—D, weight 9 oz. each	$1.80

HAMMERS.
V. & B. "EAGLE" BRAND.

Adze Eye, Plain Poll, Highly Polished, White Hickory Handles.

NOS	1½	2	3
Weight less handle.	1 lb.	13 oz.	7 oz.
Weight per dozen ..	19	16	12 lbs.
List per dozen . . .	$8.50	8.00	7.50
Net per dozen .	$31.44	30.00	28.80

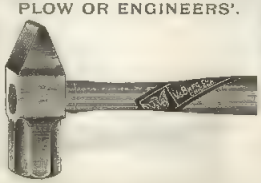
Adze Eye, Ball Poll, Highly Polished, White Hickory Handles

NOS.	11½	12	13
Weight less handle ..	1 lb.	13 oz.	7 oz.
Weight per dozen	19	16	12 lbs.
List per dozen .	$8.50	8.00	7.50
Net per dozen .	$31.44	30.00	28 80

Adze Eye, Ball Poll, Highly Polished, White Hickory Handles

NOS	R11½
Weight, less handle	1 lb
Weight per dozen	19 lbs.
List per dozen	$8 50
Net per dozen	$31.44

PLOW OR ENGINEERS'.



Highly Polished, White Hickory Handles.

NOS ..	0	1	2	3	4
Wt. less handle.	1½	1⅞	2	2½	3 lbs.
Wt. per dozen	18	24	29	35	40 lbs
List per dozen	$12 00	13.00	14.00	15.00	16 00
Net per dozen	$27 12	29.04	31.44	33.84	36.00

ONE THIRD DOZEN IN A BOX.

VAUGHN'S VANADIUM.

Adze Eye, Hexagon Neck Round Poll Polished. White Hickory Handles.

This hammer is drop forged from Vanadium steel, the toughest tool steel made. Second growth hickory handles. Perfect balance and grip. High polished finish. Temper warranted. Hole made in handle for holding bees' wax for putting on nails for hard wood.

NOS,	821	821½	822
Wt. less handle	1½ lb.	1 lb.	18 ozs
Wt. per dozen .	20	17	15 lbs
Net per dozen.	$42.00	42.00	42.00

NO. 823 Extra handles....Net per dozen $4.60

HALF DOZEN IN A BOX

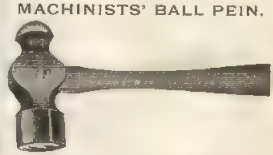
TRADESMAN'S

For heavy work, used by millwrights, cement workers etc.

	Net per doz
NO. 999 Full polished, weight 22 lbs. per dozen	$40.80

HALF DOZEN IN A BOX.

MACHINISTS' BALL PEIN.



V. & B.

Highly Polished, White Hickory Handles.

NOS.	0	1	2
Weight less handle ...	1	1½	1¾ lbs
Weight per dozen	16	21	24 lbs.
List per dozen	$12 50	13 50	14.50
Net per dozen	$24 24	26.16	28.32

NOS	3	4	5
Weight less handle.....	1⅝	2	2⅜ lb.
Weight per dozen	27	30	36 lbs.
List per dozen	$15 50	16 50	19 00
Net per dozen..	$30.24	32.16	37.20

ONE-THIRD DOZEN IN A BOX.

"PAGOMA" has contributed immeasurably to the demand for higher quality.

"PAGOMA" WASHING MACHINES.

LATEST IMPROVED ENCLOSED BALL BEARING GEARS. NOISELESS, THE MOST MODERN CONSTRUCTED WASHING MACHINE. EVERY PART BUILT SCIENTIFICALLY AND WITH GREATEST SIMPLICITY.

CONSTRUCTION.

The tub is made from selected Virginia cedar, kiln dried and free from flaws and imperfections. It is finished in one coat of Liquid filler and two coats of hight grade varnish

The dolly is made from hard maple, which has been treated to boiling linseed oil to prevent checking and splitting.

The top of the dolly shaft extends above the tub through the cover, and on that is a pinion, or cog wheel which is engaged by a cog bar, one of which joins an upright lever. This lever has a fulcrum on the side of the tub and in the upper end of the lever is placed a handle for the operator, and at the lower end it is attached to a double joint fastened on a pitman, which again is fastened to a crank, that with every stroke of the lever turns a machine cut gear-wheel This gear-wheel is enclosed in a gear case and is imbedded in hard oil and mounted on ball bearings and in turn drives a machine cut pinion enclosed in the same case and mounted in ball bearings

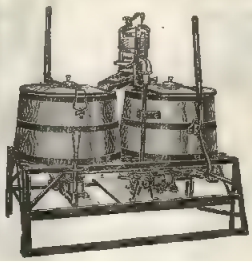
A steel shaft to which the pinion is fastened extends up through the lid of the gear case and on this shaft is fastened the large fly wheel. This fly-wheel makes five revolutions for every stroke of the lever, and when once in motion propells the machine without jerk or speed variation and with scarcely any work left for the operator.

You can readily perceive that with cut gears resting on ball bearings, enclosed in an tight case filled with hard oil and propelled by a speeded fly-wheel, and all parts being self lubricated, the machine must naturally run very easy, be almost noiseless.

COMBINATION POWER AND HAND.

NO. 130—Weight 110 lbs. each..... Net each $42.00

TWIN TUB

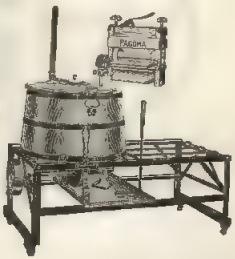


POWER.

Peg Dolly, Folding Rack.

NO. 123—Weight 260 lbs. each ..... Net each $136.00

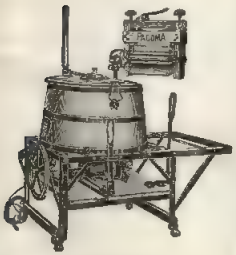
POWER-BENCH.



Peg Dolly, Folding Rack.

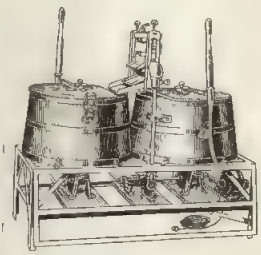
NO. 127 —Weight 225 lbs. each..... Net each $112.00

ELECTRIC.



Peg Dolly, Single Rack.

NO. 129—Weight 210 lbs. each. ..... Net each $160.00

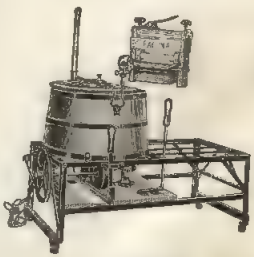


ELECTRIC

Peg Dolly, Folding Rack,

NO. 124—Weight 275 lbs. each $196.00

ELECTRIC-BENCH.



Peg Dolly, Folding Rack.

NO. 128—Weight 240 lbs. each..... Net each $164.00

We Stock Only Alternating Current, 110 Voltage. Other Current And Voltage Shipped Promptly From Factory.

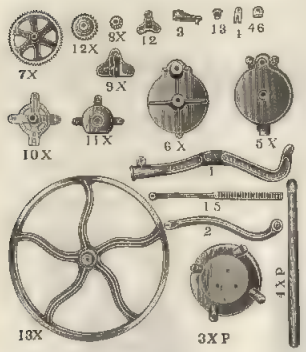
"PAGOMA"—The highest grade guaranteed goods, regardless of the price.

REPAIR PARTS FOR "PAGOMA" WASHERS.

ALWAYS USE NUMBER AND NAME WHEN ORDERING.

For All "Pagoma" Peg Dolly Type Washers Only.

HAND.

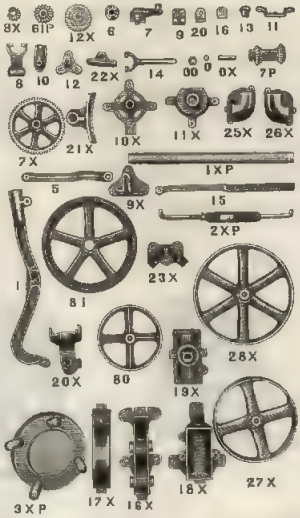


Number	Name of Part	Weight	Net each
1	Malleable Lever	3 lb.	$3.00
2	Malleable Pitman	1 lb. 2 oz.	1.00
3	Malleable Crank	8 oz.	1.50
*4	Double Joint	3 oz.	.60
*13	Button	3 oz.	.60
46	Adjusting Lug	2 oz.	.60
*5X	Gear Case	3 lb. 8 oz.	3.00
*6X	Gear Case Lid	3 lb. 8 oz.	3.00
7X	60 Tooth Gear	2 lb. 4 oz.	3 00
8X	12 Tooth Gear	4 oz.	1.50
9X	Lever Bracket	1 lb. 4 oz.	1.00
*10X	Spider	1 lb.	1.00
*11X	Cap	1 lb.	1.00
12X	Dolly Gear	1 lb.	1.50
*13X	Balance Wheel	13 lb.	4.00
15	Rack Bar	1 lb. 4 oz.	1.50
3XP	Dolly		2.00
4XP	Wood Handle		.60
	Wringer Boards		1.40
	Casters	per set	1.50
	Side Handles		.30
	Lid Fasteners		.30
	Hinges		.50

Nos. Prefixed by a are F O. B Factory.

Our Minimum Charge for Repairs 20 Cents.

POWER.



Number	Name of Part	Weight	Net each
1	Lever	3 lb.	$2.50
*5	Connecting Rod	1 lb.	1.00
6	Clutch	6 oz.	1.00
7	Clutch Crank	12 oz.	1.50
8	Shifter Fork	8 oz.	.60
9	Shifter Bearing	6 oz.	.60
*10	Shifter	8 oz.	.60
*11	Ratch	3 oz.	.60
*12	Dolly Shaft Holder	6 oz.	.90
*13	Button	3 oz.	.60
14	Shifter for Double Mitre	9 oz.	.60
15	Rack Bar	1 lb. 4 oz.	1.50
16	Adjusting Lug	2 oz.	.60
7X	60 Tooth Gear	2 lb. 4 oz.	3.00
8X	12 Tooth Gear	4 oz.	1.50
9X	Lever Bracket	1 lb. 4 oz.	1.00
*10X	Spider	1 lb.	1.00
*11X	Cap	1 lb.	1.00
*12X	Dol y Gear	1 lb.	1.50
*16X	Gear Case	6 lb.	4.00
*17X	Gear Case Lid	2 lb.	1.50
*18X	Case for Wringer Gear	6 lb.	3.00
*19X	Case Lid Wringer Gear	2 lb.	1.50
*20X	Revolving Arm	3 lb. 8 oz.	3.00
*21X	Pipe Bracket	2 lb. 2 oz.	1.50
22X	Power Bearing	1 lb.	.60
*28X	Corner Bearing	2 lb. 6 oz.	1.50
*25 and 26X	Wringer Shields	1 lb. 5 oz.	1.00
*27X	10 in. Pulley	7 lb. 10 oz.	4.00
*28X	12 in. Pulley	10 lb. 3 oz.	5.00
*80	8 in. Pulley	3 lb. 2 oz.	2.00
*81	Grooved Pulley	5 lb.	4.00
*1XP	Pipe	2 lb.	1 50
*2XP	Turnbuckle		2.00
3XP	Dolly		2.00
7P	Double Mitre	1 lb. 4 oz.	2.50
61P	Mitre Gear	7 oz.	1.50

EXTRA PARTS FOR HANDLE BARS.

FOR KELLY HANDLE BARS.

Each

No. B1—Forward Extension Stem 1 in. with Expander; Weight each about 10 oz. $2.20

No. B2½—Forward Extension Stem 2¼ in. with Expander, Weight each about 11 oz. 2.50

No. B2—Forward Extension Stem Nut; Weight each about 1 oz. ..... .10

No. B3—Forward Extension Stem Washer; Weight each abt. 1 oz. ..... .08

No. B4—Forward Extension Stem Expander Screw; Weight each, about 2 oz. ..... .10

No. B5—Forward Extension Stem Expander Plug; Weight each about 2 ozs ..... .16

No. B6—Forward Extension Right Side Arm; For No. 4/23 Handle Bars (Double Row Teeth); Weight each about 11 ozs. 2.20

No. B7—Forward Extension Left Side Arm; For No. 4/23 Handle Bars (Single Row Teeth); Weight each about 11 ozs 2.20

No. B8—Straight Front Right Side Arm; For No. 4/24 Handle Bars (Double Row Teeth;) Weight each about 12 ozs. 2.40

No. B8A—Straight Front Left Side Arm; For No. 4/24 Handle Bars (Single Row Teeth). Weight each about 12 ozs. 2.40

Packed Loose.

REPAIRS FOR SEARCHLIGHT LAMPS.

MODEL 56

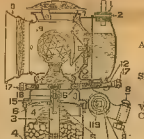
Each

No. 1/S—Top (Complete) Less Lens and Wire	$3.00
No. 2/S—Top Cap	.30
No. 3/S—Reflector Complete	.30
No. 4/S—Screw and Washer for Reflector	.10
No. 5/S—Window and Wires	.24
No. 6/S—Lens	.50
No. 7/S—Lens Wire	.10
No. 8/S—Front	3.00
No. 9/S—Filler Cap	.15
No. 10/S—Hanging Tube Cap	.15
No. 12/S—Pressure Spring	.10
No. 13/S—Carbide Cup	.30
No. 15/S—Carbide Bottom Plate and Tube	.30
No. 16/S—Outside Screw Cup	.30
No. 17/S—Bracket Complete	1.00
No. 18/S—Head Clamp	.00
No. 19/S—Bracket Clamp	.40
No. 20/S—Bracket Set Screw	.20
No. 21/S—Bracket Adjusting Screw	.30
No. 22/S—Head Clamp Screw and Wing Nut	.40
No. 23/S—Rubber Gasket	.10

Packed Loose; All Parts Weigh Less than 1 lb.

‡*Goods marked thus (‡) are not carried in stock and can only be furnished by shipment direct from factory.*

REPAIRS FOR SOLAR LAMPS.



MODELS "O" AND "S."

ALWAYS ORDER BY NUMBER.

In ordering, refer to Cross Section and order by Number.

ALL PARTS EXCEPT WHERE SPECIFIED TO THE CONTRARY, WILL FIT BOTH MODELS "O" AND "S."

Each

No. 1—Filler Cap	$0.16
No. 2—Filler Cap Washer	.04
No. 3—Screw Tube	.16
No. 4—Screen Tube Plate	.16
No. 5—Carbide Spring	.16
No. 6—Washer Plate	.08
No. 7—Reflector	.16
No. 8—Pivot Bolt	.16
No. 9—Pivot Bolt Nut	.08
No. 10—Lens Door	.20
No. 11—Lens	.24
‡*No. 12—Wick Tube*	.14
No. 13—Water Valve and Washer Nut	.08
No. 14—Washer Plate Nut	.08
No. 15—Rubber Washer	.08
No. 16—Fibre Wick	.08
No. 17—Wick Tube Cap	.08
No. 18—Water Valve	.00
‡*No. 19—Jewel (Red or Green)*	.22
‡*No. 20—Bracket Side, R. H., (Model S).*	.22
‡*No. 21—Bracket Side, L. H., (Model S).*	.22
‡*No. 22—Bracket Lining*	.08
No. 119/O—Ratchet Screw Bolt (Model "O")	.18
No. 119/S—Ratchet Screw Bolt (Model "S")	.20
No. 120/O—Bracket Complete (Model "O")	1.14
No. 120/S—Bracket Complete (Model "S")	.80
No. 121/O—Clamp Screw Bolt (Model "O")	.16
No. 121/S—Clamp Screw Bolt (Model "S")	.20
No. 122/O—Clamp Screw Thumb Nut (Model "O")	.08
No. 122/S—Clamp Screw Thumb Nut (Model "S")	.08
No. 123/O—Carbine Tank (Model "O")	.60
No. 123/S—Carbine Tank (Model "S")	.54
No. 124/O—Ratchet Screw Thumb Nut (Model "O")	.08
No. 124/S—Ratchet Screw Thumb Nut (Model "S")	.08
No. 125/O—Ratchet Arm (Model "O")	.22
No. 125/S—Ratchet Arm (Model "S")	.20

Packed Loose; All Parts Weigh Less than 1 lb. and can be sent by Mail.

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We have more customers than any other Hardware concern in the world.

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For Nearly a Century the Store of Service.

PEARL HANDLE AND JACK KNIVES

PEARL HANDLE KNIVES

No. 2154

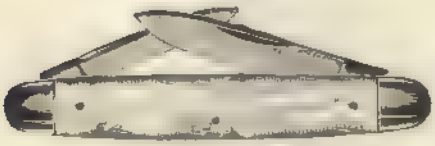

Fig. 41209A

No. 2074

Fig. 41209B

No.	Description	Price per Doz.
2154	3-inch Handle, Brass-lined, Nickel Silver Bolsters	16 50
2561	3-inch Handle, Same as No. 2154 with Nickel Silver Tips and Shackle	24 00
2074	3¼ " Brass Lined, Nickel Silver Tips and Shield	30 00
2761	3¼ " with Emblem on Handle, otherwise Same as No. 2074	33.00

NOTE—These knives have 1 spear and 1 pen blade.

No. 2164

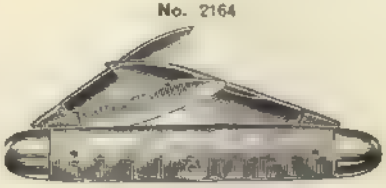

Fig. 41209C

No. 2279

Fig. 41209D

2164	2¾-inch Handle, Brass Lined Nickel Silver Bolsters.			21 00
2274	3 "	"	Otherwise Same as No. 2164	26 00
2279	3½ "	"	Brass-lined, Nickel Silver Bolsters	27 50
2634	3½ "	"	Same as No. 2279 with Nickel Silver Tips	22 50

NOTE—Nos. 2161 and 2274 have 1 spear, 1 pen and 1 file blade. Nos. 2279 and 2634 have 1 spear, 1 file and 2 pen blades.

JACK KNIVES

No. 0400

Fig. 41209E

0400	2⅝-inch	Cocoa	Handle, Brass lined, Polished Steel Bolster and Cap	10 50
0402	2⅝ "	Black	" Otherwise Same as No. 0400	10.50
0403	2⅝ "	Stag	" " " " " 0400	10 50

NOTE—These knives have 1 spear and 1 pen blade

JACK KNIVES

WITH TWO BLADES

No. 26

Fig. 41210A

No. 96

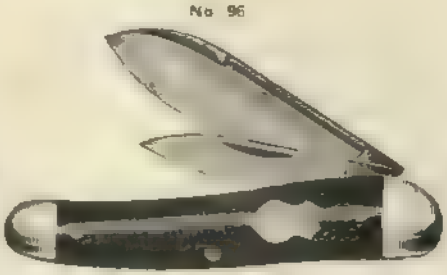

Fig. 41210B

No.	Description	Price per Doz.
26	3 [illegible]-inch Black Handle, Brass-lined, Polished Steel Bolster and Cap ...	8.00
28	3½ " Stag " Otherwise Same as No. 26	8 00
96	3½ " Black " Brass-lined, Polished Steel Bolster and Cap.	10 50
98	3¾ " Pyralin Handle Otherwise Same as No. 96	10 50

No. 46

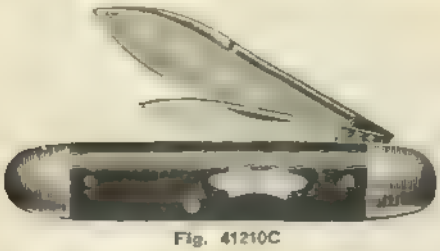

Fig. 41210C

No. 56

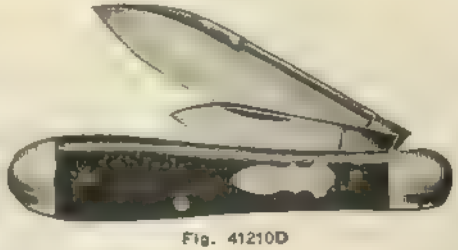

Fig. 41210D

46	3¾-inch Black Handle, Brass-lined Polished Steel Bolster and Cap	10.00
48	" Stag " Otherwise Same as No. 46	10.00
1298	3½ " " " Same as No. 48 with Nickel Silver Bolster and Cap	11 00

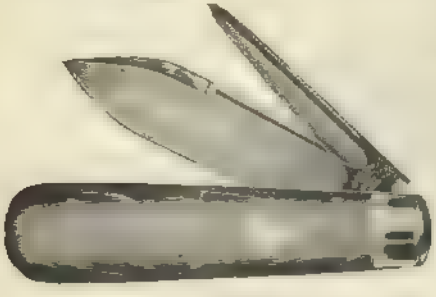

Fig. 41210E

No.	Description	Price per Doz.
50	3½-inch Black Handle, Brass Lined. Polished Steel Bolster and Cap	10.50
58	3½-inch Stag Handle, Otherwise Same as No. 50	10 50
15	3½-inch Cocoa Handle, Brass Lined Polished Steel Bolster and Cap	8 00
18	3-inch Stag Handle, Otherwise Same as No. 15	8 00

NOTE.—All of the above knives have 1 spear and 1 pen blade, except Nos. 15, 18 and 1298, which have 1 spear and 1 punch blade.

Write us Your Requirements for Goods Not Listed.

PEN KNIVES

WITH TWO BLADES

No. 2218 Pyr.

Fig. 41208A

No. 2158

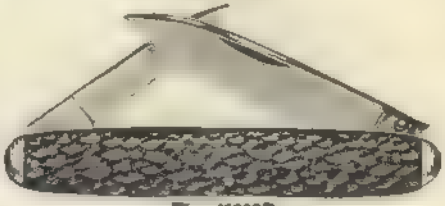

Fig. 41208B

No.	Description	Price per Doz
2218 Pyr.	3-inch Pyralin Handle, Brass-lined, Nickel Silver Bolsters	11.25
2218	3 " Stag Handle, Otherwise Same as No. 2218	11.00
2218	3⅜ " " " " " " " "	13 25
2158	2¾ " " " Brass Lined, Nickel Silver Tips	10.00

No. 2741

Fig. 41208C

No. 2713

Fig. 41208D

2711	3 " Green Black Pyralin Handle, Brass Lined, Nickel Silver Bolsters	10 00
2743W	3 " White Ivory Pyralin Handle, Otherwise as No. 2741	10 00
2713	3½ " Stag Handle, Brass Lined, Nickel Silver Tips	16.50
2713J P	3½ " Japanese Pearl Pyralin Handle, Otherwise as No. 2713	17.00

NOTE.—All the above knives have 1 spear and 1 pen blade except Nos. 2713 and 2713 J. P., which have 1 spear and 1 file blade

WITH THREE BLADES

No. 3493

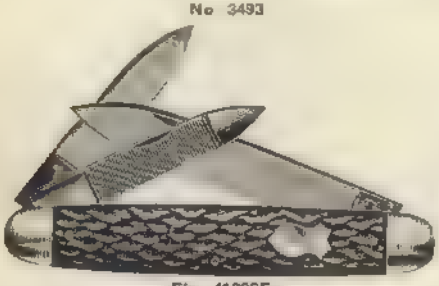

Fig. 41208E

No. 583

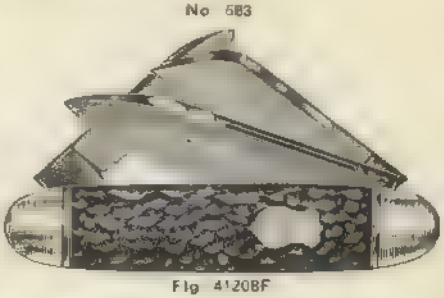

Fig. 41208F

3493	3¼-inch Stag Handle, Brass Lined, Nickel Silver Bolsters	17.00
2288	3⅛ " " " " " " " " Tips	16 50
583	3⅝ " " " " " " " " Bolsters	18.00
0473	3⅝ " " " Shape and Trimmings Same as No. 583	19.00

NOTE.—Nos. 3493 and 2288 have 1 spear, 1 pen and 1 file blade. No. 583 has 1 spear, 1 pen and sheep foot blade. No. 0473 has 1 spear, 1 pen and punch blade

Write us Your Requirements for Goods Not Listed.

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No. 60W117. Imported Marble Clock, 24-hour lever movement, silver dial with blue steel hands, height 3½ inches, width 3½ inches.
Each 1.50

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No 60W115. Imported China Clock, pure white, yellow tinted height 7¼ in., width 3⅜ in., fitted with a 2-inch 24-hour movement. An attractive number.
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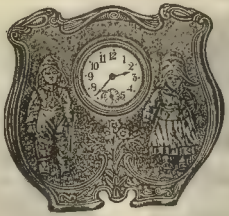
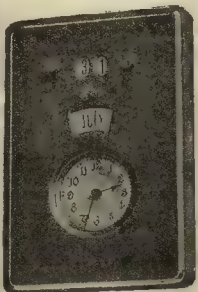
No. 60W148. Ormolu Clock, gold finish, embossed design, fitted with 2-inch movement, silver dial, height 5¼ in., width 3¾ in.
Each 2.25

24 Karat Ormolu Gold Plated Clock



No. 60W149. Ormolu Gold Plated Clock, with embossed Dutch figures, fitted with a 32-hour American movement, height 6 in., width 6¼ in., highly finished. An accurate timepiece.
Each 2.35

Calendar Clock



No. 60W139. Desk Clock, nickel finish, perpetual calendar, 32-hour lever time movement, 2-inch dial, height 5¼ in., width 3¾ in., easel back.
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No. 60W150. Ormolu Gold Plated Clock, embossed Cupid design, height 9 in., fitted with an American 2-inch 32-hour movement. An accurate timepiece.
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No. 60W118. Imported Marble Clock, 24-hour lever movement, silver dial with blue steel hands, height 4 inches, width of base 2 in.
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No. 60W146. Ormolu Gold Plated Clock, Colonial design, fancy raised embossed ornamentation on all sides, rustic scenes, 32-hour movement, height 6⅛ in.
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24K Ormolu Gold Plated Clock

60W150

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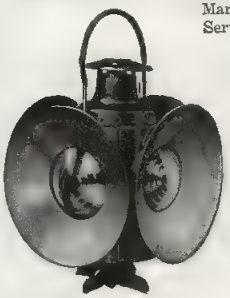

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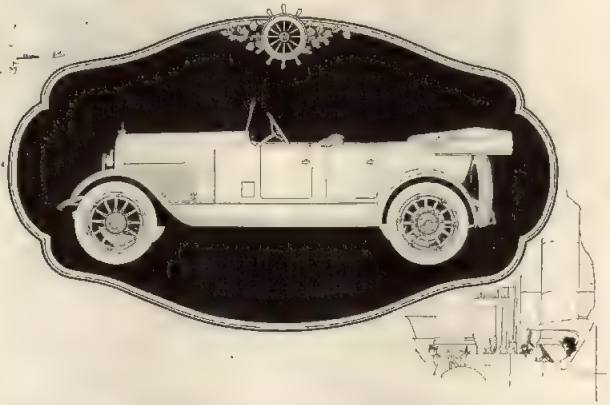

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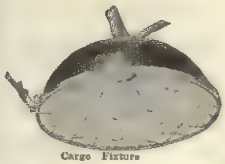

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Federal Electric Company, Chicago.
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National X-Ray Reflector Co., Chicago.
Pettingell-Andrews Co., Boston, Mass.
Pittsburgh Reflector & Illuminating Co., Bowman Bldg., 3rd & Ross Aves., Pittsburgh, Pa. **See Advt. Index, Page 7**
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Harter Mfg. Co., 1856 Fulton St., Chicago.
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Luminous Unit Co., St. Louis, Mo.
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Lighting Plants See Electric Light Plants

Lighting Plants, Turbo-Generator

Adams & Westlake Co., 319 W. Ontario St., Chicago. **See Advt. Index, Page 7**
Dayton Mfg. Co., Dayton, O.
General Electric Co., Schenectady, N. Y. **See Advt. Index, Page 7**
Loco Light Company, The, Indianapolis, Ind.
Sunbeam Electric Manufacturing Co., The, (Formerly Schroeder Headlight & Generator Co.), Evansville, Ind. **See Page 7**

Lighting Systems, Automobile

Hartman Electrical Mfg. Co., Mansfield, O.

Lighting Systems, Color Matching

National X-Ray Reflector Co., Chicago, Ill.
Pittsburgh Reflector & Illuminating Co., Pittsburgh.

Lighting Systems, Contractors' and Industrial

American Lighting Co., Chicago.
Butte Electrical Equipment Co., San Francisco, Cal.
Electro Dynamic Company, Bayonne, N. J.
General Electric Co., Schenectady, New York **See Advt. Index, Page 7**
Lucey Manufacturing Corp., Chamber of Commerce Bldg., Pittsburgh, Pa. **See Advt. Index, Page 7**
Luminous Unit Co., St. Louis, Mo.
Macbeth Evans Glass Co., Pittsburgh, Pa.
National X-Ray Reflector Co., Chicago.
Nagel-Chase Mfg. Co., Chicago.
Pittsburgh Reflector & Illuminating Co., Bowman Bldg., 3rd & Ross Aves., Pittsburgh Pa. **See Advt. Index, Page 7**
Western Electric Company **See Page 7**

Lighting Systems, Flood

Carbic Mfg. Co., Duluth, Minn. **See Page 7**
Electric Service Supplies Co., 17th and Cambria Sts., Philadelphia, Pa. **See Page 7**
Harter Mfg. Co., 1856 Fulton St., Chicago.
National X-Ray Reflector Co., Chicago.
Pittsburgh Reflector & Illuminating Co., Bowman Bldg., 3rd & Ross Aves., Pittsburgh, Pa. **See Advt. Index, Page 7**
"P" shaped Flood Lamp is designed for the standard 300 to 1000 watt "C" lamps. By the use of a special designed glass reflector about 70% of the light is secured in place of the usual 35%.
Pyle-National Company, The, 1334 N. Kostner Ave., Chicago **See Advt. Index, Page 7**
Sunbeam Electric Manufacturing Co., The (Formerly Schroeder Headlight & Generator Co.), Evansville, Ind. **See Page 7**
Thompson Electric Co., The, Cleveland, O.
Western Electric Company. **See Page 7**

75-Ton Switcher with Super Heater and Walschaert Gear.

LOCOMOTIVES

LIGHT AND HEAVY, NARROW AND WIDE GAUGES

STEAM - FIRELESS
COMPRESSED AIR

12th Edition Catalogue 151 Pages, 8½x11, with engineering information you need mailed free to user or prospective user of locomotive if business card is furnished and this MacRae advertisement mentioned.

Contractors and Industrial Dinkey Locomotives Kept on Hand For Immediate Shipment.

H. K. PORTER COMPANY
Union Bank Building, PITTSBURGH, PA.

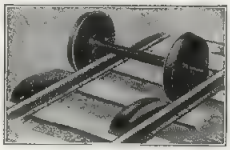
Pittsburgh Forge & Iron Co

PITTSBURGH, PA.

Manufacturers of

Car and Locomotive Axles
Heavy Forgings
Refined Bar Iron
Atlas Staybolt and Engine Bolt Iron
Track Bolts and Screw Spikes
Tie Plates, Crank Pins and Piston Rods
Arch Bars

CHICAGO OFFICE, RAILWAY EXCHANGE BLD.



ALDON

Car & Engine
REPLACER

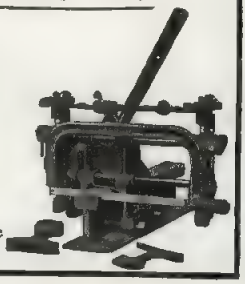
Made in five sizes for all conditions of service.

Manufacturers
Jim Crow Rail Benders, Track Drills, Car Movers, Track Gauges, etc.

THE ALDON COMPANY
3338-40 RAVENSWOOD AVE., CHICAGO, ILL.

ALDON
PORTABLE
RAIL SAW

Automatic Feed, Variable and Adjustable.
Suitable for Any T-Rail Six Inches or Less.



Weight complete only 60 lbs.

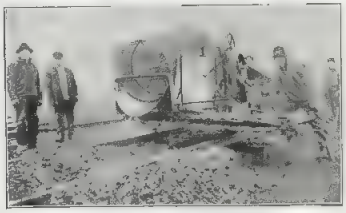
SEATTLE FROG & SWITCH CO.

Builders of Track Special Work
and Railroad Track Specialties

1503-4 42nd Story, Smith Building
SEATTLE, WASH.

Labor Saving Track Devices

THREE MEN RAIL LAYER



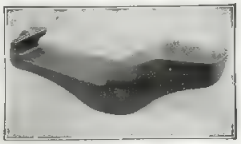
POWER BALLAST SCREEN
A comparatively small gang using this machine can screen ballast at the rate of one or more track feet per minute.

"K" POWER PULLER
One man with this pulling jack can exert a draw bar pull of 40 tons.

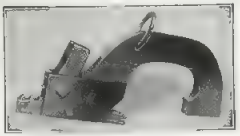
CLOUGH TIE HOOKS

CLOUGH RAIL HOOKS
Most modern and efficient unloading nooks on the market

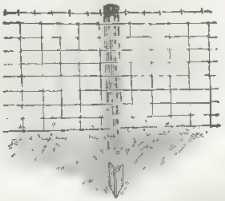
RICHTER BLUE FLAG DERAIL



BLAIR TIE SPACER



WAGNER SWITCH POINT STRAIGHTENER



RED TOP STEEL FENCE POSTS

PERFECT RAIL BRACE
Designed with and without tie plate

If Interested in Labor Saving Track Devices Write to

Maintenance Equipment Co. Railway Exchange CHICAGO

For Nearly a Century the Store of Service.

PRENTISS VISES

MACHINISTS' SELF-ADJUSTING JAW VISES
STATIONARY BOTTOM

Fig. 3760A

Number	1	2	2½	3
Width of Jaws in.	2⅝	3½	4	4½
Opens "	3½	4¾	5¼	6
Weight lbs	13½	28	41	54
Price ea.	13.50	16.00	19.00	22.00
Number	4	5	6	
Width of Jaws in.	5¼	6	7	
Opens "	8	9	11	
Weight lbs.	96	146	184	
Price ea.	35.00	50.00	65.00	

MACHINISTS' SOLID JAW BULLDOG VISES
STATIONARY BOTTOM

Fig 3760C

Number	50	51	52	53
Width of Jaws in.	3¼	3⅝	4⅛	4⅝
Opens "	4	5½	6	7
Weight lbs	22	28	42	52
Price ea.	10.00	11.25	12.75	15.50
Number	54	55	56	57
Width of Jaws in.	5	5½	6	7
Opens "	8	9	10	12
Weight lbs	72	100	135	210
Price ea.	20.00	30.00	39.00	55.00

SWIVEL BOTTOM

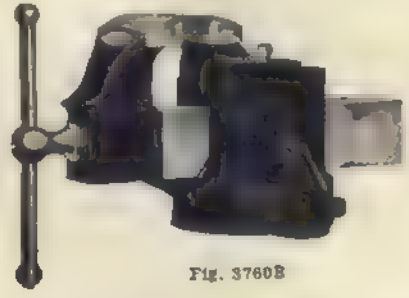


Fig. 3760B

Number	18	19	19½	20
Width of Jaws in.	2⅝	3½	4	4½
Opens "	3½	4¾	5¼	6
Weight lbs.	17	32	46	65
Price ea.	16.00	20.00	24.00	28.00
Number	21	22	23	
Width of Jaws in.	5¼	6	7	
Opens "	8	9	11	
Weight lbs.	109	168	207	
Price ea.	44.00	60.00	75.00	

SWIVEL BOTTOM

Fig 3760D

Number	90	91	92	93
Width of Jaws in	3¼	3⅝	4⅛	4⅝
Opens "	4	5½	6	7
Weight lbs	28	36	52	64
Price ea	13.00	15.00	17.00	20.00
Number	94	95	96	97
Width of Jaws in.	5	5½	6	7
Opens "	8	9	10	12
Weight lbs.	85	115	155	235
Price ea	30.00	38.00	52.00	70.00

ATHOL VISES

STANDARD VISES

SWIVEL BASE AND SWIVEL JAW

Fig. 15843A

No.	Width Jaws Inches	Jaws Open Inches	Weight Pounds	Price Each
624	2½	3½	18	16.00
625	3	4	23	17.50
628	3½	5	35	20.00
630	4	6	48	24.00
632	4½	7	68	28.00
634	5	8	87	35.00
636	5½	9	108	44.00

Will be furnished with check-faced tempered steel jaws unless smooth faced jaws are specified.

STATIONARY BASE AND SWIVEL JAW

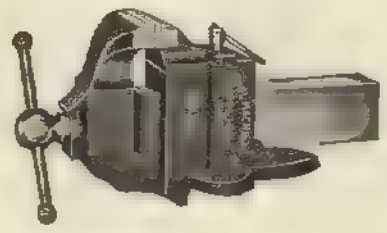


Fig. 15843B

No.	Width Jaws Inches	Jaws Open Inches	Weight Pounds	Price Each
625	2½	3½	17	13.50
627	3	4	21	15.00
629	3½	5	30	16.00
631	4	6	41	19.00
633	4½	7	57	22.00
635	5	8	74	28.00
637	5½	9	93	35 00

STATIONARY BASE

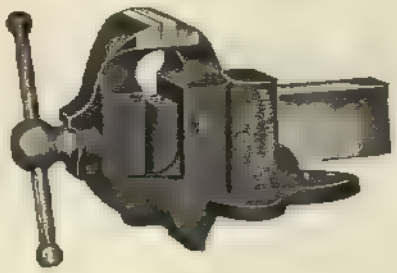


Fig. 15843C

No	Width Jaws Inches	Jaws Open Inches	Weight Pounds	Price Each
87	2⅛	2	5½	6.50
88	2½	2¾	9	8 00
89	3	3½	16	10.00
90	3½	4	26½	11.25
91	4	5	38	12.75
92	4½	6	50	15.50
93	5	7	65	20.00

No 87 has smooth-faced, tempered steel jaws.

Nos 89, 90, 91 and 92 will be furnished with smooth jaws when so ordered, at no extra cost

Nos. 88, and 93 have checked jaws.

CLAMP BASE

No.	Width Jaws Inches	Jaws Open Inches	Weight Pounds	Price Each
3	1⅛	1¼	1½	2.25
4	1⅝	1¾	2¾	3.20
5	2⅛	2	5¾	5.05
6	1⅝	1¾	2¾	3.20

Furnished with smooth-faced, tempered steel jaws. No. 6 is the same as No. 4, except the clamp, which is extra long so it may be attached to a 2¼-inch bench.

EXTRA HEAVY CHIPPING VISES

No.	Width Jaws Inches	Jaws Open Inches	Weight Pounds	Price Each
94	5½	8	100	30.00
95	6	9	135	39.00
96	7	10½	190	55.00
97	8	12½	260	75.00

Nos 94, 95, 96 and 97 have checked jaws

Write us Your Requirements for Goods Not Listed.

FIRE EXTINGUISHERS. "GUARDENE"

FULLY WARRANTED.

Standard Polished Brass Style

Guardene Fire Extinguishers embodies all the latest improvements in soda and acid machines They are powerful enough to handle a free burning fire in its early stages, yet light and compact enough to permit extremely quick action. All fires are small fires first and there are few fires that a Guardene won't handle if it is used during the first few minutes.

This type of Extinguisher is not recommended for use where there is danger of freezing.

Guardene Extinguishers are well designed and do not look out of place in any office, school or theatre. Besides bearing the Underwriters' Label, Guardene Extinguishers are approved by the U. S. Steamboat Inspection Service. Guardene Extinguishers are also approved by factory mutual insurance companies.

Each Guardene has a 17 inch Flexible Hose This enables the operator to aim the stream in any direction

The Extinguishers are made of cold rolled copper, burnished outside and heavily plated inside with non-corrosive plating. In the head is a "cage" which holds a bottle half filled with sulphuric acid. The tank is filled with a solution of bi-carbonate of soda and water.

Guardene Extinguishers are simple and positive in action. There is nothing to get out of order. To operate, the Extinguisher is simply turned up side down. The stoper falls out of the Sulphuric Acid Bottle The acid then mixes with the solution of bi-carbonate of soda and water This generates carbon dioxide gas in sufficient pressure to throw the two and one half gallons of solution forty feet. The stream can be shut off by turning the Extinguisher right side up again.

As the cost of recharging Guardene Extinguishers is slight, the upkeep expense is low.

Guardene Fire Extinguishers are tested to 350 lbs. pressure, but the working pressure is only about 100 lbs.

	Net each
NO. 100—Complete with chemical charge and hanging hook. Capacity 2½ gallons, wt. filled 40 lbs List each $70.00	
Less than 6..	$32.00
Six or more	30.00

Packed in carton, complete with chemical recharge and bracket and screws for hanging.

EXTRA CHARGES.	Net per doz.
Extra Charges for No. 100 extinguisher	
In dozen lots	$13.50
Net each	1.30

FIRE EXTINGUISHERS.

FIVE-GALLON PUMP TANK.

Non-Freezing. Simple to Operate.

Especially adapted for use in unheated buildings. The pump tank is extremely simple. Its 5-gallon capacity is ample to extinguish a good sized fire. The double acting pump throws a steady stream 50 feet. The force of the stream will beat its way through the flames and soak the burning material. This increases the fire fighting efficiency of the pump tank

The pump is made of brass with a screen to keep it from clogging. Every tank bears the label of Underwriters' Laboratories

Pump tanks are particularly recommended for protection of railroad property, docks, cold storage plants, unheated warehouses, farm property, lumber camps, lumber yards, grain elevators, coal yards, ice houses, etc.

Priced Without Non-Freezing Solution.

	Net Each
***NO. 200**—Capacity 5 gallons; weight, filled, 52½ lbs..... List each $15 00	
Less than six.	$24 00
Six or more.....	22.50

***Extra Non-Freezing Charges.**

	Net each
NO. 1—Charge containing 10 lbs. Pyrene Freeze-Proof, prevents 5-Gallon Pump Tank freezing at 10 degrees above zero. ..... .List each $2 25	$3.40
NO. 2—Charge containing 15 lbs. Pyrene Freeze-Proof, prevents 5-gallon Pump Tank freezing at 10 degrees below zero..... .List each $3.40	5.10
NO. 3 .Charge containing 20 lbs. Pyrene Freeze-Proof, prevents 5 gallon Pump Tank freezing at 40 degrees below zero..... .List each $4.50	6 80

*F. O. B. Kansas City, Mo.

"PAGOMA" is supremacy.

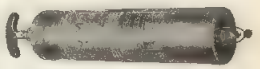
FIRE EXTINGUISHERS. "PYRENE."

Approved By Underwriters.
Reduces Your Automobile Insurance.
A 15% reduction in premium is allowed if an automobile is equipped with a Pyrene Fire Extinguisher.
Size 3 Inches in Diameter and 14 Inches Long Weight 5 Lbs. Filled Ready For Use. Complete With Black Enameled Bracket.

	In case	List each	Net each Less than 6	Net each 6 or more
NO. 2 -Brass finish	6	$10.00	$16.00	15.00
Extra Enameled Brackets . . .		1.00	1.60	1.50
Quarts Pyrene Fluid.	20	1.75	2.80	2.64
Gallons Pyrene Fluid	6	7.00	11.20	10.50

ONE ONLY IN A CARTON

"THE J. M."



Approved By Underwriters.

Can be operated without continuous pumping, which enables its use in difficult places; for instance, in under the motor, where others could not be used.

Constructed of heavy brass tubing, measures 14½ inches long, 3 inches in diameter.

Complete with black enamel bracket and screws for fastening.

	List each	Net each Less than 5	Net each 5 or more
NO. 12B Brass finish. ..	$10.00	$16.00	$15.00
NO. 13N—Nickel Finish...	10 00	16.00	15 00
J. M. Fluid, quart size ...	1.50	2.40	2.28
J. M. Fluid, gal. size....	6 00	9.60	9 00

ONE ONLY IN A CARTON, FIVE IN A CASE

PYRENE "FIREKLOKS."

On Guard for Life.

Fireklok is an automatic fire alarm It is hung above a stove, furnace, register or any danger spot where fire may start. In industrial plants it will give warning at drying ovens or in drying rooms or where spontaneous combustion may start in oily waste or rubbish When fire starts the five inch gong will ring loud and clear for more than five minutes.

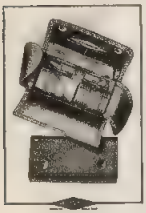
	Net Each
*Fireklok . . .List $7.50	
Less than 5 . .	$10.50
Six or more . . .	9.40

F. O. B. Kansas City, Mo

GILLETTE SAFETY RAZORS AND BLADES.

ALL SETS ARE COMPLETE WITH 12 BLADES.

Net Selling Prices Figured on a Basis of 25% Discount From Retail or List Price.
Quantity Discount—36 Gillette Razors or 100 dozen blades (All in One Shipment) 25 and 10% Discount.



No. 20.

No. 00.

POCKET EDITION.
Leather Case (Soft Roll).

Net per set

NO. 20 Triple silver plated razor and blade box with indestructible metal mirror.....Retail price per set $5.00 $7.50

STANDARD COMBINATION SET.
Leather Case.

NO. 00 Triple silver plated razor, shaving brush and stick Gillette shaving soap in nickel plated holders; 12 double-edged blades (24 shaving edges) in boxes to match case. .....Retail price per set $7.50 $11.26

ONE SET IN A BOX.

No. 17 and 17-G

Big Fellow

BULL DOG COMBINATION SET.
Leather Case.

Net per set

NO. 17—Consist of Bull Dog type triple silver plated razor, shaving stick and shaving brush in nickel plated holders, indestructible metal mirror fitted into pocket in lid; 12 Gillette blades (24 shaving edges) all contained in a leather case.....Retail price per set $8.00 $12.00

NO. 17G—Same style as above, gold plated razor and fittings .....Retail price per set $10.00 15.00

ONE SET IN A BOX

"BIG FELLOW" SET

Net per set

"BIG FELLOW"—The Man's Size Razor for a Man's Size Fist Twice as heavy as any other model of Gillette. Takes same size Gillette Blade. Beautiful Gum Wood Case with Soft Lusterless Finish. Triple Silver Plated Razor, and Metal Blade Box .....Retail price, per set $5.00 $7.50

"BIG FELLOW" G—Gold Plated Razor and Gold Plated Blade Box. Otherwise same as "Big Fellow." .....Retail price, per set $6.00 $9.00

ONE SET IN A BOX

LE LUXE COMBINATION SET.

Net Pet Set

*De Luxe Set Beauty has joined hands with utility to create this masterpiece of the art of razor making. The skill of the jeweler has been added to the practical features of the Gillette, enabling us to offer you the most beautiful razor outfit ever made. The razor itself, together with the metal containers, are plated with 22 karat gold, hand engraved and initialed, all in a rich Morocco case with engraved initials or monogram on outside. This beautiful set is especially adapted for presents, trophies and prizes, also for personal use of those who desire a luxuriously finished and equipped razor outfit. There is joy in the ownership of such a production.....Retail price, per set $75.00 $112.50

ONE SET IN A BOX.

*Not Carried in Stock. Will Be Sent Charges Prepaid From Factory.

GILLETTE BLADES.

Each Blade in a Separate Envelope, Two Shaving Edges on Each Blade.

Net per pkg

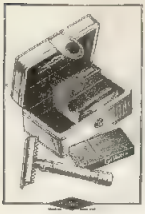
NO. 6—Extra Blades, 6 in a package, 20 packages in a carton .....Retail per package $0.50 $0.75

NO 12 Extra Blades, 12 in a package, 10 packages in a carton .....Retail per package 1.00 1.50

GILLETTE SAFETY RAZORS.

ALL SETS ARE COMPLETE WITH 12 BLADES

Net Selling Prices Figured on a Basis of 25% Discount From Retail or List Price
Quantity Discount—36 Gillette Razors or 100 Dozen Blades (All in One Shipment) 25 and 10% Discount.



No. 460.

No. 460B

STANDARD RAZOR.

Leather Case.

Net per set

NO. 460—Leather case, purple lined, triple silver plated razor. ... Retail price per set $5 00 — $7.50

Metal Case

NO. 460B—Nickel plated case, purple lined, triple silver plated razor ..... Retail price per set $5 50 — 8.26

ONE SET IN A BOX

No 461B

Bull Dog.

COMBINATION SET.

Metal Case, Purple Lined.

Net per set

NO. 461B Triple silver plated razor, 12 double-edged blades (24 shaving edges), collapsible shaving brush; stick Gillette shaving soap in nickel plated holder.. ... ... Retail price per set $7 50 — $11 26

BULL DOG

Leather Case, Purple Lined, Heavy Stocky Handle

Preferred by many old and new Gillette users

Bull Dog Triple silver plated razor and blade boxes to match case ..... Retail price per set $5 00 — 7.50

ONE SET IN A BOX

Aristocrat

Milady Decollette

ARISTOCRAT.

French Ivory Case, Purple Lined

Beautifully modeled on lines of refined simplicity. Especially desirable for gift purposes

Net per set

Aristocrat—Triple silver plated razor and blade boxes to match case ..... Retail price per set $6.00 — $9.00

Aristocrat "G" - Gold plated razor and gold plated blade boxes Retail price per set $7 00 — 10 50

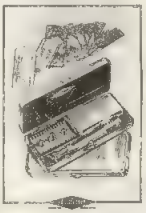
MILADY DECOLLETTE GILLETTE.

Special Set For Ladies.

To keep the underarm white and smooth

Milady Decollette—14 K. gold plated razor and blade box, French ivory case, lined with old rose velvet and satin ..... Retail price per set $6.00 — 9.00

ONE SET IN A BOX



Nos. 500 and 500B.

Nos. 501 and 501B

POCKET EDITION.

Plain Case

Net per set

NO. 500 - Triple silver plated case, velvet lined, razor and blade box ..... Retail price per set $5.00 — $7 50

NO. 500B—Gold plated case, velvet lined, gold plated razor and blade box..... Retail price per set $6.00 — 9.00

Basket Pattern Case

NO. 501 Triple silver plated case, velvet lined, razor and blade box..... Retail price per set $5.00 — 7.50

NO. 501B Gold plated case, velvet lined, gold plated razor and blade box. ..... Retail price per set $6.00 — 9 00

ONE SET IN A BOX.

"Specification"

Malleable Castings
For All Purposes

The Marion Malleable Iron Works
MARION - INDIANA

Grand Rapids Malleable Works
GRAND RAPIDS, MICH.

Railroad and Automobile Castings

Charcoal Iron Castings
A Specialty

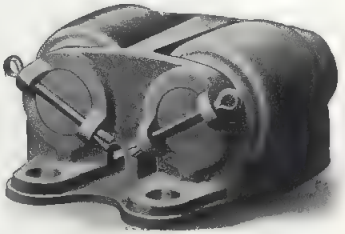
MAKE YOUR LINE CONSTRUCTION PERMANENT

Operating officials who have difficult cross-over problems will find a solution in Franklin Steel Poles. These sturdy small base structures are especially effective where limited right-of-way space makes the wide base tower impossible.

FRANKLIN STEEL WORKS
FRANKLIN, PENN., U.S.A.

The Pound Of Pull

developed in the locomotive goes further when you can reduce Wheel Flange Wear



Economy Roller Side Bearing
Lubricated, heavy case hardened axles and rollers—unlimited travel.

Drexel Roller Side Bearing

Dirt, snow and ice cannot interfere with free operation. Large contact surface. Positive centering. Open to inspection. Strong. Simple.

Wheel flange wear, cost of truck repairs, cost of transportation decreased by the use of such side bearings as the Creco, Economy or Drexel, and the life of a car wheel prolonged.

This company placed the first successful anti-friction side bearing on the market twenty years ago—and thousands are in use today.

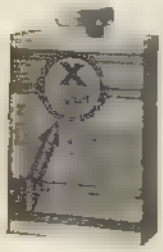
Creco Roller Side Bearings
Drexel Roller Side Bearings
Economy Roller Side Bearings
Creco Slack Adjusters
Monitor Bolsters
Creco Sliding Third-Point and Four-Point Brake Beam Support
Duplex Struts

Chicago Railway Equipment Company
CHICAGO

RADIATOR LIQUID AND OIL

X RADIATOR LIQUID

STANDARD SIZE



FORD SIZE

The ability of X Radiator Liquid to repair all leaks everywhere in the cooling system is only one of its features. It neutralizes the corrosive elements in water and eliminates rust. It also prevents the deposit of scale upon the metal walls. The use of X liquid affords a cleaner and better working cooling system.

X Radiator Liquid is guaranteed to repair any leak in less than 10 minutes.

Price, Standard Size..... each 1.50
" Ford Size..... " .75

X RADIATOR LIQUID

SPECIAL ASSORTMENT

This quick-selling and splendid X Radiator Liquid is offered in this special assortment, with display poster, and a mahogany stand, if requested.

The assortment consists of 6 cans of the standard size and 12 cans of the special Ford size. Also one 1.50 can free.

Price, Special Assortment....each 19 50

THREE-IN-ONE OIL

BOTTLE

HANDY CAN

Three-In-One Oil prevents rust, and lubricates, cleans and polishes. If used on the commutator of the Ford it makes cranking easier. No dirt or dust can collect and there is no clogging, gumming or sticking. It keeps the commutator bright and clean and every bit of current is collected.

The squeaking of the automobile springs may be stopped by putting the oil along the edges of the leaves and on the ends of the spring. It prevents rust between the leaves. This oil should be used on the springs once a week. New springs lose their stiffness when treated with Three-In-One

Three-In-One Oil can be used as a lubricant, as it is light enough to penetrate, heavy enough to lubricate and does not gum under any conditions of heat, cold, water, snow, mud or dust. It does not smoke or heat up.

If used on varnished wood or metal body of a car it removes stains, scars and marks, and brings back the bright finish, preserves and hardens the varnish surface, prevents peeling, cracking and chipping. Can be used on the wind shield, prevents moisture from sticking to glass.

It preserves the leather cushions, keeps them from hardening and cracking. Can be used for lubricating self-starters, electric horns, speedometers, cone clutches, door hinges and door locks. Put up in three size bottles and handy oil cans.

Price, 8-ounce Bottles, ½-pint..each .60
" 3 " " ..... " .30
" 1 " " ..... " .15
" 3 " Handy Oil Cans " .30

Write us Your Requirements for Goods Not Listed.

HARRIS GASOLINE ENGINE AND MOTOR-CYCLE CYLINDER OILS

LIGHT GRADE

Light colored; made from selected stock and filtered, not bleached. Practically carbonless, and possesses excellent lubricating body.

MEDIUM GRADE

A medium bodied oil of high flash test and viscosity, adapted to all makes of motors using gravity, force feed or splash system.

SPECIAL MEDIUM GRADE

Designed to meet the continuously growing demand for a little heavier oil than Medium yet not too heavy. This oil in flash and viscosity is halfway between the Medium and Heavy Grades.

HEAVY GRADE

A heavy bodied oil of very high flash test and more viscous than the Medium Grade yet feeds readily. Recommended for motors whose pistons are somewhat cutting or worn.

EXTRA HEAVY GRADE

An exceptionally viscous oil of high fire test. Recommended for use on high speed and air-cooled motors, also where a slight leakage is objected to, as in the Extra Heavy Grade.

HARRIS MOTORCYCLE CYLINDER OIL

Made in 4 grades of consistency: Medium, Special Medium, Heavy, and Extra Heavy. The first 3 grades mentioned are adapted to certain types where engines are not required to run at extreme high speed, while the Extra Heavy Grade is especially adapted to high speed motors.

HARRIS CYLINDER TRACTOR OIL

This oil has all the characteristics of perfect lubricants and in its use the tendency to overheat is entirely eliminated. It is made in the following grades of consistency: Heavy Tractor, Heavy Dark Tractor, Special Tractor, Extra Heavy Tractor, Extra Heavy Dark Tractor Cylinder Oil.

HARRIS GEAR AND TRANSMISSION OIL

This is a dark, heavy bodied oil for gear cases, differentials and differentials made especially to meet requirements better than any steam cylinder oil which softens and

HARRIS UNIVERSAL JOINT COMPOUND

Especially adapted for perfect lubrication of universal joints. Also used with good results in differential and wheel bearings where other lubricants show a tendency to work out.

TRANSMISSION GREASE

This is furnished in two grades, Light and Heavy. The Light solidified oil is designed especially for transmission and differentials gears. The Heavy is of the grease consistency adapted for use in heavy transmission and differentials of trucks.

HARRIS MOTOR GREASE

A cup grease of the highest quality, especially prepared for compression cups. Furnished in any consistency.

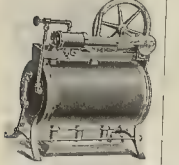
NOTE.—Harris Gasoline Engine, Motorcycle Cylinder, Tractor Cylinder Oil and Gear and Transmission Oils are put up as follows: Barrels, ½-barrels, 15-gallon drums; 5-gallon cans, 2 to a case; 1-gallon cans, 12 to a case.

Harris Transmission Grease and Universal Joint Compound put up as follows: Barrels, ½-barrels, 50-pound pails, 25-pound pails, 10-pound pails, 6 to a case; 5-pound pails, 12 to a case.

Harris Motor Grease put up as follows: Barrels; ½ barrels; 50-pound pails; 25-pound pails; 10-pound pails, 6 to a case; 5-pound pails, 12 to a case; 3-pound pails, 18 to a case; 1-pound pails, 50 to a case.

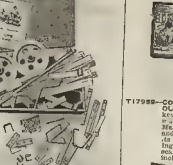
Harris Oils are also put up in steel drums of 5, 10 and 15 gallon sizes, equipped with faucet, which is a great improvement over the wood barrel.

Steam Engines—Continued



T18180—STEAM ENGINE—Brass boiler enclosed in blue steel jacket from which polished safety valves, whistle and gauge, very strongly built cast iron cylinder and steam chest with large heavy fly wheel. Size ... Ea. 7 15

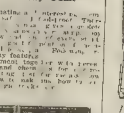
T16988—CHEMCRAFT—Contains glass stirring rod, 5 glass vials with tube, brush, eye dropper tube, test tube holder, funnel, measuring glass, 42 chemicals with book of instructions and directions for experiments. In box, size 12x18 inches ... Each 3 34



T17074—Contains all parts necessary for building Factory Truck, Gator, Two Wheeled Wagonette, with two steel disc wheels, hand iron steering, hand iron, steel wheel-cutfit is packed complete in heavy two colored box and has ... Each 3 34

Radioptican Projector—Fitted for Electricity

T17039—Handsomely lithographed in four colors, equipped with two 24 candle power carbon lamps; a inch double convex lens ... Each 3 60



Gilbert Chemistry Outfit

The most fascinating [illegible] book which explains [illegible] thoroughly illustrated [illegible] form chemical [illegible]

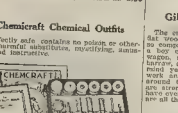
T17076—[illegible] Each

T17030—[illegible] Each 6 00

T17265—CHEMISTRY SET—Wal cell compressed with battery, apparatus and chemicals for [illegible] Each 3 34

Chemicraft Chemical Outfits

Perfectly safe contains no poison or otherwise harmful substitutes, everything amusing and instructive.



T16986—CHEMCRAFT OUTFIT [illegible] Each 1 40

T16987—CHEMCRAFT OUTFIT—Contains glass stirring rod, 5 glass vials, glass delivery tube, spoon, measure, 17 chemicals with book of instructions for 97 experiments. In box, size 11½x11½ inches ... Each 1 67

Gilbert's New Wheel Toys

The entire outfit comes packed in a neat flat wooden case and the contents packed so compactly that it hardly seems possible a boy can make from it a steering gear wagon, a real glider, a coaster, a motor lawnmower and a dozen more toys, models, novel toys, but the real things, toys that are so much fun a boy can run and bang around in his heart's content. Toys that are stronger and better made than any boy-built ones seen. A screw driver and wrench are all the tools needed to put them together

T17073—This little electrical laboratory is a complete outfit to teach the boy the fundamentals of electricity including [illegible] Each 7 00

T17072—[illegible] Each 3 25

Electrical Laboratory

T17073—This outfit builds the Glider, Go-Cart, Wheelbarrow, Coaster, Wagon and many others, depending only on the boy's ingenuity. Box 10½x24½ inches ... Each 2 50

Telephone Sets

T17989—COMPLETE TELEGRAPH OUTFIT—Including two keys and [illegible] Manual of instructions, etc. Each [illegible] and describes telegraphy and its uses in a fascinating way. Packed in [illegible] sealed carton, 12½x8¾x3 inches ... 1 40

T17970—A REAL WORKING MINIATURE TELEPHONE OUTFIT—[illegible] Each [illegible] will operate from garret to cellar, from room to room. Contains complete [illegible] tions to be assembled [illegible] ... 6 00

T17971—A TELEPHONE OUTFIT [illegible] ... 3 00

Wireless Set

Toy Telephones

T18085—TELEPHONE BANK—Made of metal, finished in black [illegible] Pieces 1 50

T18092—TOY DESK TELEPHONE—Made of metal in attractive colors, height [illegible] Each 1 20

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Mechanical Toys

Toy Telephones

T1801 T1802-03 Per doz.

T18091—WALL TELEPHONE—Made of all black enameled steel with nickel plated receiver and bell ring to ringing and bell ringer, 2½ inches 2.50

Per doz. sets

T18109—WALL TELEPHONE—Constructed of wood with 2 nickel plated bells and metal clappers, length, 10 inches.. 4.40

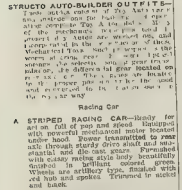
T18169—WALL TELEPHONE—Constructed of wood with 2 nickel plated bells, one metal clapper and receiver, length 12 inches 6.60

Structo Auto-Builder

STRUCTO AUTO-BUILDER OUTFITS—Each outfit consists of Toy Automobile, instruction book, hardware and other complete Toy Automobile parts of the mechanical nature. Wheels, axles and bearings are wound on, and mounted in the proper position. Other metal parts, such as gears, sprockets, steering gear, brake rods, etc., differ in the finer located on the proper position on the wood and mechanical parts in the proper way.

Racing Car

A STRIPED RACING CAR—Handy for act on full of pep and speed. Equipped with powerful mechanical motor located under hood. Power transmitted to rear axle through sturdy drive shaft and bevel gears and die-cast gears. Furnished with extra racing style steering wheel, artistically finished in brilliant colors. Finished with Wheels are artillery type, finished with red hub and spokes. Trimmed in nickel and black.



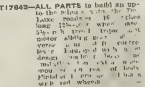
T7930 Each

T7930—THE TOY AUTOMOBILE [illegible] of brass and steel. The parts consists of necessary parts for building the complete model, working axle. The auto has mechanical motor. Each outfit packed in attractive box size of box, 12½ inches square.. 3.90

Each

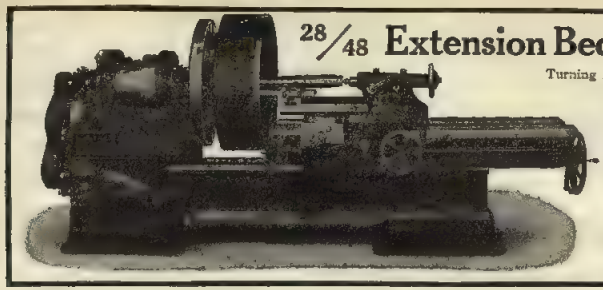
T17840—THIS OUTFIT consists of The necessary parts for building the complete auto as shown, has mechanical motor, Structo gear transmission, etc., packed in attractive box size of box, 12½ inches square. Each outfit has [illegible] and each outfit contains red with book 4.90

Structo Auto-Builder



T17842 Each

T17842—ALL PARTS to build an up-to-the-minute Toy Automobile. Large [illegible] inches long, [illegible] inches high. [illegible] motor also [illegible] centre [illegible] [illegible] [illegible] design. [illegible] two [illegible] [illegible] [illegible]



28/48 Extension Bed Gap Lathe

Turning Large Pulley for

RAILROADS
STEEL MILLS
SHIP BUILDING
COAL MINES

and Plants that want a Repair Lathe for All Work

The Rahn-Larmon Co.
Cincinnati, Ohio

Lathes, Forming, Metal

Acme Machine Tool Co., The, Cincinnati, O.
American Tool Works Co., Cincinnati, O.
Lancaster Mach. & Knife Wks., Lancaster N. Y.
Meriden Machine Tool Co., Meriden, Conn.
Rahn-Larmon Co., The, 2941 Springrove Ave., Cincinnati, O. . . . . See Page 7
Warner & Swasey Co., Cleveland, O.

Lathes, Gap

Barnes Drill Co., 822-850 Chestnut St., Rockford, Ill. . . See Advt. Index, Page 7
Beck & Corbitt Iron Co., 1232-1244 Main St., St. Louis, Mo . . . . . See Page 7
Harrington Son & Co., Edwin, Philadelphia, Pa.
Niles-Bement-Pond Co., New York.
Rahn-Larmon Co., The, 2941 Springrove Ave., Cincinnati, O. . . . . See Page 7
Manufacturers of Engine, Turret and Gap Lathes From 16" to 36" inclusive, including the 22/40"–28/48" Extension Bed Gap Lathes. Also manufacturers of the removable bed Gap type of lathe. See advertisement.
Sebastian Lathe Co., Cincinnati, O.
Simmons Machine Co., Inc., Albany, N. Y.
Smith Mfg. Co., The Philip, Sidney, O.
Willard Machine Tool Co., The, Cincinnati, O.

Lathes, Gauge

Fay & Egan Co., J. A., Cincinnati, O . See Page 7
Goodspeed Machine Co. Winchenden, Mass
Ober Mfg. Co., Chagrin Falls, O
Whitney & Son, Baxter D., Winchenden, Mass

Lathes, Gear Turning, Bevel

Betts Machine Co., Rochester, N. Y. See Page 7

Lathes, Geared Head

Boye & Emmes Machine Tool Co., The, Cincinnati, O.
Lehmann Machine Co., 3556 Chouteau Ave., St. Louis, Mo . See Advt. Index, Page 7
On account of its simplicity of construction, perfect and ample range of speeds, a clutch for forward and reverse requiring no adjustment, moderate travel of the gears, compact and shapely appearance, the "LEHMANN" Improved Sensitive Head stands in a class ahead and alone. Send for special bulletin.
National Lathe Co., The, Cincinnati, O.
Sebastian Lathe Co., Cincinnati, O.
Wickes Brothers, Saginaw, Mich.
Willard Machine Tool Co., The, Cincinnati, O.

Lathes, Geared, Headstock See Lathes, Engine; see also Lathes, Turret

Lathes, Hand

Garvin Machine Co., The, Spring & Varick Sts., New York . See Advt. Index, Page 7
Johnson Co., Israel H., Jr., Philadelphia, Pa.
Meriden Machine Tool Co., Meriden, Conn.
South Bend Lathe Works, South Bend, Ind.

Lathes, Journal Truing

Betts Machine Co., Rochester, N. Y. See Page 7
Bridgeford Journal Truing Lathes are used in the leading railroad repair shops in all parts of the country.
Dunn Co., W. C., 832 W. 6th St., Cincinnati, O. (Portable) . . See Advt. Index, Page 7
The "Pearce" Journal Truing Machine is a portable outfit which can be taken out to the job, thereby saving the cost of loading, unloading and transporting to the shop, and which trues the journal perfectly. The saving in time and money runs very high and helps to keep rolling stock moving. Will true all size journals from 3¾"x7" to 6"x11", inclusive. Has been tested and installed on some of the largest systems in the country. Send today for full particulars, data and prices.
Niles-Bement-Pond Co., New York.

Lathes, Last

Gilman & Son, Springfield, Vt.
Kimball Bros. & Sprague, Brockton, Mass.

Lathes, Lever Controlled

National Lathe Co., The, Cincinnati, O.
Willard Machine Tool Co., The, Cincinnati, O.

Lathes, Manual Training

Beck & Corbitt Iron Co., 1232-1244 Main St., St. Louis, Mo . See Advt. Index, Page 7
Lehmann Machine Co., 3556 Chouteau Ave., St. Louis, Mo . See Advt. Index, Page 7
South Bend Lathe Works, So. Bend, Ind.
Willard Machine Tool Co., The, Cincinnati, O.

Lathes, Pattern Makers'

Blount & Co., J. G., Everett, Mass.
Fay & Scott, Dexter, Me.
Fay & Egan Co., J. A., Cincinnati, O . See Page 7
Garvin Machine Co., The, New York.
Herrmann Machine Co., Williamsport, Pa.
Oliver Machinery Co., Grand Rapids, Mich.

Lathes, Polishing Stone

Garvin Machine Co., The, New York.
Lincoln Iron Works, Rutland, Vt.
Patch Mfg. Co., F. R., Rutland, Vt.

Lathes, Precision

(Toolmakers' and small engine lathes for precision work See also Lathes, Bench)
Hardinge Brothers, Inc., 4201 Ravenswood Ave., Chicago . . . See Advt. Index, Page 7
Pratt & Whitney Co., Hartford, Conn.
Wade-American Tool Co., The, Waltham Mass
Willard Machine Tool Co., The, Cincinnati, O.

Lathes, Production

Boye & Emmes Machine Tool Co., The, Cincinnati, O.
Dunn Co., W. C., Cincinnati, O.
Lehmann Machine Co., St. Louis, Mo
Manning, Maxwell & Moore, New York
Mueller Machine Tool Co., The, Cincinnati, O
Wickes Brothers, Saginaw, Mich.
Willard Machine Tool Co., Cincinnati, O.

Lathes, Pulley

(Lathe designed especially for turning crown or straight pulleys)
Ryerson & Son, Jos. T., Chicago, New York, Buffalo, St. Louis, Detroit . . . See Page 7

Lathes, Quick Change Gear

American Tool Works Co., Cincinnati, O.
Beck & Corbitt Iron Co., 1232-1244 Main St., St. Louis, Mo . . See Advt. Index, Page 7
Betts Machine Co., Rochester, N. Y. . . . Page 7
Boye & Emmes Machine Tool Co., The, Cincinnati, O.
Greaves-Klusman Tool Co., The, Cincinnati, O.
Hamilton Machine Tool Co., The, Hamilton, O. . . . . See Advt. Index, Page 7
Our New Model Rapid Production Lathes were designed to meet the requirements of modern high-speed tool steel. Combine features which make them the most powerful, yet accurate lathes of their size on the market. The improved gear box, semi steel bed with its wide V, the box type headstock, Chrome-nickel steel spindle, double apron and drop-forged apron gears are a few of the points which make for accuracy and durability; while the central oiling system of the gear box and apron, sightfeed spindle oilers, and the fact that every running part bears in bronze bushings, reduce friction to a minimum.
They are made in sizes from 14 in. to 24 in., belt drive, motor driven and geared head.
Hardinge Brothers, Inc., 4201 Ravenswood Ave., Chicago . . See Advt. Index, Page 7
Lehmann Machine Co., 3556 Chouteau Ave., St. Louis, Mo . . See Advt. Index, Page 7
Quick change gear arrangement on the "LEHMANN LATHE" permits 56 thread and feed changes and is provided with a swinging quadrant for compounding gears for cutting odd pitch gears and worms. Send for catalog describing in detail.
National Lathe Co., The, Cincinnati, O.
Niles-Bement-Pond Co., New York.
Rahn-Larmon Co., The, 2941 Springrove Ave., Cincinnati, O. . . . . See Page 7
Ryerson & Son, Jos. T., Chicago, New York, Buffalo, St. Louis, Detroit . . . See Page 7
Wickes Brothers, Saginaw, Mich.
Willard Machine Tool Co., The, Cincinnati, O.

Lathes, Removable Gap

Rahn-Larmon Co., The, 2941 Springrove Ave., Cincinnati, O. . . . . See Page 7
Willard Machine Tool Co., The, Cincinnati, O.

Lathes, Roll

(Lathe designed especially for turning rolling mill, steel mill and calendar rolls.)
American Tool Works Co., Cincinnati, O.
Betts Machine Co., Rochester, N. Y. . . . . See Advt. Index, Page 7
Boye & Emmes Machine Tool Co., The, Cincinnati, O.
Hyde Park Fdry. & Mach. Co., Hyde Park, Pa.
Niles-Bement-Pond Co., New York.
United Engineering & Fdry Co., Pittsburgh, Pa.
Wheeling Mold & Foundry Co., Wheeling, W. Va.
Youngstown Fdry. & Mach. Co., Youngstown, Ohio.

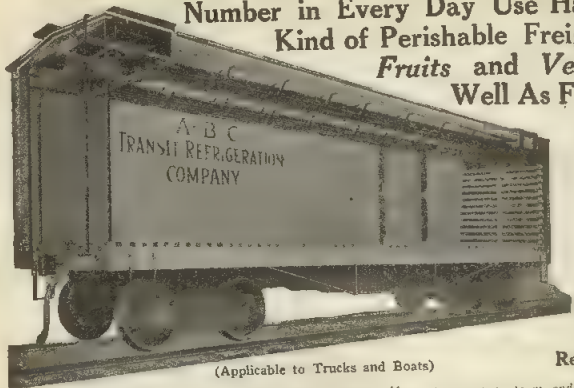
Lathes, Roughing

American Tool Works Co., Cincinnati, O.
Beck & Corbitt Iron Co., 1232-1244 Main St., St. Louis, Mo . See Advt. Index, Page 7
Betts Machine Co., Rochester, N. Y. . . . . Page 7
Boye & Emmes Machine Tool Co., The, Cincinnati, O.
Mueller Machine Tool Co., The, Cincinnati, O.
National Lathe Co., The, Cincinnati, O.
Rahn-Larmon Co., The, 2941 Springrove Ave., Cincinnati, O . . See Page 7
Sellers & Co., (Inc.), Wm., Philadelphia, Pa.

Lathes, Screw-Cutting

Beck & Corbitt Iron Co., 1232-1244 Main St., St. Louis, Mo . . . . . See Page 7
Barnes Drill Co., 822-850 Chestnut St., Rockford, Ill. . . See Advt. Index, Page 7
Boye & Emmes Machine Tool Co., The, Cincinnati, O.
Gross Hardware & Supply Co., Phillip, Milwaukee, Wis.
Lehmann Machine Co., 3556 Chouteau Ave., St. Louis, Mo . . . See Advt. Index, Page 7

A Combined *Refrigerator* and *Heater* Car. Large Number in Every Day Use Handling Every Kind of Perishable Freight, Including *Fruits* and *Vegetables* As Well As Fresh and Frozen Meats. First Cost Is Less Than for End Bunker Car of Same Interior Loading Length.



(Applicable to Trucks and Boats)

Cost of Maintaining and Transporting Is Less.

Reduces Damage Claims. Saves Ice.

Requires Less Re-icings.

Cold brine is circulated through overhead pipes creating uniform temperature from end to end and top to bottom Hot brine is circulated through floor pipe where the heat can be applied properly. Eliminates use of stoves

A-B-C Transit Refrigeration Company

Railway Exchange Building LEWIS PENWELL, President Chicago, U. S. A.

Central Electric Company, 316-326 S. Wells St., Chicago.

Fry Glass Co., H. C., Rochester, Pa. (Glass.)

General Electric Co., Schenectady, N. Y.
.....**See Advt. Index, Page 7**

Glazier Mfg. Co., The, Rochester, N. Y. (Headlight.)

Harter Mfg. Co., 1856 Fulton St., Chicago.
Porcelain enameled steel

Klemm & Co., Philadelphia, Pa.

Macbeth-Evans Glass Co., Pittsburgh, Pa.

National Metal Stamp. & Mfg. Co., Newark, N. J.

National X-Ray Reflector Co., Chicago (Glass.)

Pittsburgh Reflector & Illuminating Co., Bowman Bldg., 3rd & Ross Aves., Pittsburg, Pa. ..... See Advt. Index, Page 7

Reflectolyte Co., The, 914 Pine St., St. Louis, Mo. ..... See Advt. Index, Page 7

St. Louis Brass Mfg. Co., St. Louis, Mo.

Star Headlight & Lantern Co., Rochester, N. Y.

Sunbeam Electric Manufacturing Co., The, (Formerly Schroeder Headlight & Generator Co.), Evansville, Ind. (Locomotive Headlights.)

Sunlight Reflector Co., Brooklyn, N. Y.

Western Electric Company ..... See Page 7

Western Reflector Co., Chicago

Reflectors, Glass, Parabolic

Benjamin Electric Mfg. Co., 806 W. Washington St., Chicago ..... See Page 7

Gray & Sons, Inc., Peter, Boston, Mass.

Macbeth-Evans Glass Co., Pittsburgh, Pa.. .....See Advt. Index, Page 7

Pittsburgh Reflector & Illuminating Co., Pittsburgh, Pa.

Reflectors, Headlight, Replated See Headlight Reflector Replating

Reflectors, Lighting, Shop and Yard

Adams & Westlake Co., The, Chicago

Benjamin Electric Mfg. Co., 806 W. Washington St., Chicago. ..... See Page 7

Under the heading "Benjamin Products" at many items which are necessary to correct lighting in relation to railroads, etc., porcelain enameled steel reflectors of various types—one for each particular class of work around the shop. Weatherproof yard and platform lighting units designed to give the proper diffusion of light and withstand hard usage. Chemical, gas and vapor-proof units to protect lamps from the destroying influence of corrosive gases. Locking sockets, whereby lamps, after being screwed in, cannot be removed except by the use of a specially provided key. High grade wiring devices, approved by the Fire Underwriters Association. Two-Way Plugs for the purpose of producing two lights from one socket. Industrial signals for calling foremen or warnings for traveling cranes, etc. All the above mentioned products are of particular value to railroads. Catalogs covering the Benjamin line are available. Write for one.

Central Electric Co., 316-326 So. Wells St., Chicago ..... See Advt. Index, Page 7

Dayton Mfg. Co., Dayton, O.

General Electric Co., Schenectady, N. Y. .....See Advt. Index, Page 7

Harter Mfg. Co., Chicago

National X-Ray Reflector Co., Chicago

Pittsburgh Reflector & Illuminating Co., Bowman Bldg., 3rd & Ross Aves., Pittsburgh, Pa. ..... See Advt. Index, Page 7

Reflectors, Mirror

Bausch & Lomb Optical Co., Rochester, N. Y.

Macbeth-Evans Glass Co., Pittsburgh, Pa.

National X-Ray Reflector Co., Chicago

Pittsburgh Reflector & Illuminating Co., Bowman Bldg., 3rd & Ross Aves., Pittsburgh, Pa. .....See Advt. Index, Page 7

Refractories

Crescent Refractories Co., Curwensville, Pa. .....See Advt. Index, Page 7

Evens & Howard Fire Brick Co., St. Louis, Mo.

Harbison-Walker Refractories, Pittsburgh, Pa.

Hayes Refractories Co., Johnstown, Pa.

Joinless Fire Brick Co., 1149 Clayton St., Chicago ..... See Advt. Index, Page 7

Kier Fire Brick Co., The, 2243 Oliver Bldg., Pittsburgh, Pa.

Laclede-Christy Clay Prod. Co., St. Louis, Mo.

Refractories, Graphite

Vesuvius Crucible Company, Swissvale, Pa. .....See Advt. Index, Page 7

Refrigerating Equipment for Refrigerating Cars

A-B-C-Transit Refrigeration Co., 20 E. Jackson Blvd., Chicago ..... See Page 7

A Refrigerating System Using Brine Circulation; no machinery; simple, efficient, economical; requires little attention; reduces reicings to a minimum, requires less ice. Car converted into a heater simply by using hot instead of cold brine, heated by switch engine or other available steam line once in four to six days.

Union Railway Equipment Co., Chicago.

Refrigerators

Alaska Refrigerator Co., Muskegon, Mich.

Baldwin Refrigerator Co., Burlington, Vt.

Banta Refrigerator Co., Clearfield, Pa.

Bohn Refrigerator Co., St. Paul, Minn.

Brecht Co., The, St. Louis, Mo.

Challenge Refrigerator Co., Grand Haven, Mich.

Cincinnati Refrig. & Fixt. Co., Cincinnati, O.

Cleveland Store Fixture Co., Cleveland, O.

Coast Culvert & Flume Co., Portland, Ore. (Iceless.)

Cold Storage Refrigerator Co., Eau Claire, Wis.

Dillingham Mfg. Co., Sheboygan, Wis.

Eddy & Sons Co., D., Boston, Mass.

General Motors Corp., Detroit, Mich. (Iceless.)

Hydro-Aqual Refrigerator Co., Grand Rapids, Mich.

Gross Hardware & Supply Co., Phillip, 218-220 Fourth St., Milwaukee, Wis. .....See Advt. Index, Page 7

Gurney Refrigerator Co., Fond du Lac, Wis.

Heinz & Musselman, Buffalo, N. Y.

Herr & Refrig. Co., Wilmington, Del.

Illinois Refrigerator Co., Morrison, Ill.

Jewett Refrigerator Co., The, 127 Chandler St., Buffalo, N. Y. See Advt. Index, Page 7

Builders of refrigerators, and refrigerator construction for industrial Restaurants, Hotels, Clubs, Institutions, Steamships, etc. Mortuary Refrigerators for Hospitals. One piece Solid Porcelain Refrigerators for residences. Detailed blue prints and specifications submitted.

Kordland Refrigerator Co., New York.

Mace & Co., L. H., New York.

Maine Mfg. Co., Nashua, N. H.

McCray Refrigerator Co., Kendallville, Ind.

McKee Refrigerating Co., Brooklyn, N. Y.

Monroe Refrigerator Co., Lockland, O.

Northey Mfg. Co., Waterloo, Ia.

Odorless Refrigerator Co., Chattanooga, Tenn.

Pick & Company, Albert, 208-224 W. Randolph St., Chicago ..... See Page 7

Radiant Manufacturing Co., Sandusky, O.

Ranney Refrigerator Co., Greenville, Mich.

Rhinelander Refrigerator Co., Rhinelander, Wis.

Seeger Refrigerator Co., St. Paul, Minn.

Sheffield Bros., New York.

Stevens Co., John A., Toledo, O.

Success Mfg. Co., Gloucester, Mass.

Viking Refrigerator Co., Kansas City, Mo.

Refrigerators and Cooling Rooms

Bohn Refrigerator Co., St. Paul, Minn.

Brecht Co., The, St. Louis, Mo.

Cooper Madison Co., Calcium, N. Y.

Gloekler Co., Bernard, Pittsburgh, Pa.

B-V PUNCHES

Both of these Punches are Standard on many of the Largest Railway and Railroad Systems throughout the country, because their superiority over any punch so far produced has been proved by severe tests.

We Guarantee these punches free from all defects in material and workmanship

Write for Catalog

Bonney, Vehslage Tool Company

TRADE MARK B-V REGISTERED

61 N. J. R. R. Av. **Newark, N. J.**

Punches, Structural Iron See Punches, Beam

Punches, Tariff

Tengwall Co., Chicago.

Punches, Ticket and Transfer, Conductors'

American Railway Supply Co., 134-136 Charles St., New York.

Bonney, Vehslage Tool Co., 61 N. J. R. R. Ave., Newark, N. J. See Page 7

Manufacturers of strictly high-grade ticket punches. A punch for every style of ticket.

The visible feature and tool steel dies of the finely finished B-V punches make them leaders. Their durability and speed of operation cannot be duplicated. Made by expert workmen, and of the finest material obtainable. Fully guaranteed. Write for catalogue.

Bridgeport Hdw. Mfg. Corp., Bridgeport, Conn.

Brooks & Co., Inc., E. J. New York.

Dayton Mfg. Co., Dayton, O.

Excell Manufacturing Co., The, New Haven, Conn.

International Register Co., The, Chicago.

Mac-Mieth Co., Newark, N. J.

McGill Metal Products Co., 1640 Walnut St., Chicago.....See Advt. Index, Page 7

Sample sent for Service Test.

McKenzie, W. F., Portland, Ore.

Meyers Mfg. Co., Inc., The, Fred. J. Hamilton, O See Advt. Index, Page 7

Moss Company, Inc., Theo., 17a Stone St., New York .. See Advt. Index, Page 7

National Ticket Punch Co. Inc. Newark, N. J.

Railway Specialties Corp., New York.

Spencer Mfg. Co., S. M., Boston, Mass. .. See Advt. Index, Page 7

West Distributing Co., 182 Washington St., New York .. See Advt. Index, Page 7

We specialize in this product and invite your inquiry. Let us quote on your requirements.

Wilcox Co., W. W., 1713-1738 Armitage Ave., Chicago.....See Advt. Index, Page 7

Punches, Tie Plate

Cleveland Punch & Shear Works Co., The, Cleveland, O. See Advt. Index, Page 7

Cleveland Steel Tool Co., The, 900 E. 82nd St., Cleveland, O. See Advt. Index, Page 7

Hilles & Jones Co., Wilmington, Del. Page 7

Klein-Logan Co., The, Pittsburgh, Pa.

Kling Bros. Engineering Works, Chicago.

Verona Tool Works, Pittsburgh, Pa.

Warren Tool & Forge Co., The, Warren, O

Punches, Track

Dudgeon, Richard, Broome & Columbia Sts., New York.....See Advt. Index, Page 7

Klein-Logan Co., The, S. 13th & Breed Sts., Pittsburgh, Pa. See Advt. Index, Page 7

Standard Tie Plate Corporation

Verona Tool Works, Oliver Bldg., Pittsburgh, Pa. See Advt. Index, Page 7

Warren Tool & Forge Co., The, Warren, O

Watson-Stillman Co., The, 1592 Hudson Terminal Bldg., New York. (Spike Blot.) See Advt. Index, Page 7

Punches, Various Standards

Cleveland Punch & Shear Works Co., The, Cleveland, O.....See Advt. Index, Page 7

The Cleveland System of punches is the most economical system. We have standardized a great many companies who were using other systems and we are ready to demonstrate to you the superiority of the Cleveland System whenever you contemplate reducing your costs. Cleveland Hand Book No. 6 describes the Cleveland System in detail. Write for a copy.

Lewthwaite Machine Co., T. H., 419 East New York .....See Advt. Index, Page 7

New Duty Mfg. Co., Janesville, Wis.

Niles-Bement-Pond Co., New York.

Syerson & Son, Jos. T., Chicago, New York, Buffalo, St. Louis, Detroit. .See Page 7

Punchings, Armature and Transformer

Gospel & Company, C. F., 137 E. 13th St., New York See Advt. Index, Page 7

Mossberg Co., Frank, Attleboro, Mass.

Rock River Machine Co., Janesville, Wis.

Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.....See Advt. Index, Page 7

Worcester Stamped Metal Co., Worcester, Mass.

Purifiers and Scrubbers, Gas

Bartlett-Haywood Co., Baltimore, Md.

Buffalo Forge Co., Buffalo, N. Y.

Continental Iron Works, Brooklyn, N. Y.

Cruse-Kemper Co., Dept. E., Ambler, Pa.... .....See Advt. Index, Page 7

Fresh, Brassert & Co., Chicago

(Continued on following page.)

McGILL PUNCHES

Are Well Made

They Give Excellent Service

McGill Ticket Punches are high grade punches in every respect. Dies are case hardened, assuring clean-cutting of ticket and adding to life of the punch. All moving parts accurately machined and fitted. Leverage correctly proportioned. Handles fit the hand comfortably. Springs of good material and will give long service. Punches are heavily nickel plated.

Write for Catalog 26

McGill Metal Products Co.

1640-42 Walnut St. **CHICAGO**

Dolls

N15044-13

With composition head and hands, moving eyes, mohair wigs, short white dress trimmed dress, with cap to match; knitted booties. Each in box.

N15044—Height 14 inches	2.00
N15045—Height 16 inches	2.50
N15046—Height 18 inches	3.00
N15047—Height 24 inches	5.00

Talking Dolls

N15174

N15174—BABY DOLL—With real mohair wig, white lawn dress elaborately trimmed with lace and insertion, cap to match; baby shaped body, jointed feet, assorted colored knitted booties which hide voice box. Doll cries real when baby opens its eyes; fully cork stuffed, inside reinforced steel jointed, has open mouth and nursing bottle in silk crocheted bag suspended from mask, height 16 inches ..... 2.00 Each

N15175

N15175—BABY DOLL—Beautiful white lawn dress elaborately trimmed with lace insertion, coloring and silk ribbon sash; cap to match, real mohair wig, crocheted booties, has voice in head which cries when baby opens its eyes, fully cork stuffed, inside reinforced steel jointed; height 13 inches; has nursing bottle in crocheted bag to match of silk ..... 3.50 Each

N15176—LIFE SIZE BABY DOLL—Wears high grade white lawn dress elaborately trimmed with lace, silk insertions and silk ribbon rosettes, cap to match, has real mohair wig, voice in head which cries when baby opens its eyes; open mouth and nursing bottle in silk crocheted bag, crocheted booties, fully cork stuffed; inside reinforced steel joints, height 26 inches 5.00

Walking Dolls

This new line will be a sensation of the 1921 doll season. The mechanism is simple and so constructed that the doll walks naturally as led along.

N15051

N15051—WALKING DOLL—Jointed limbs; composition head with painted hair and eyes; composition hands; removable shoes and stockings; linen dress with collar and cap to match, height 19½ inches ..... 1.40 Each

N15052—Same as N15051, with wig and lace trimmed voile dress; height 19½ inches 2.00

N15053—WALKING DOLL—With moving eyes; mohair wig, fine voile lace trimmed dress with hat to match, height 19½ inches 2.00

N15053

N15054

N15056

N15057

N15054—WALKING DOLL—Fine white organdie dress, lace trimmed, with lace trimmed cap to match, moving eyes, mohair wig, height 19½ inches. Each in box ..... 2.50 Each

N15055—WALKING DOLL—With full jointed composition arms and legs, composition head with moving eyes, mohair wig fine colored voile dress lace trimmed with lace trimmed cap to match, height 21 inches. Each in box 3.00

N15056—WALKING DOLL—With full jointed composition arms and legs; fine colored voile dress, trimmed with lace, lace trimmed cap to match; removable shoes and stockings; composition head, moving eyes and wig, height 22 inches. Each in box 3.25

N15057—WALKING DOLL—With full jointed composition arms and legs, composition head, moving eyes, fine mohair wig, fine white, lace trimmed dress and hat to match, removable shoes and stockings, height 22 inches. Each in box 5.00

Raleigh Dolls

N15244

N15246

N15244—"SHERRY," AN ADORABLE BABY—Composition body with moving head, arms and legs; legs and arms are naturally curved and body beautifully modeled. She has moving eyes and mohair bobbed wig; her long dress is of sheer white material with lace trimming around skirt, at neck, sleeves and yoke; lace trimmed bonnet with ribbon ties, underskirt, diaper and flannel bootees. Height 18 inches ..... 4.00 Each

N15246—"MISS VIRGINIA"—Is most fastidious in her dress and bonnet. She is 24 inches in height and has a fully articulated body with a good quality composition shoulder head and arms. Socks, slippers and shoulders form real hair curls will waves in front, and moving eyes. Her frock is of dainty flowered material. Blue bands trim the low waistline, the short puffed sleeves, and front for and hangs a dainty little bag. The dainty straw poke bonnet is tied daintily under the bright white stockings and slippers to match costume 6.75

All Metal Dolls

N15251-52

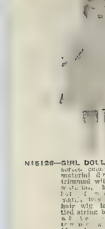
Bisque finish, ball socket jointed head jointed arms and legs. Length, 12 inches

N15251—Painted hair and eyes 1.10

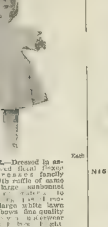
N15252 Painted hair and moving eyes 1.40

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Moving Eyes—Mohair Wig



N15126—GIRL DOLL—Dressed in assorted printed floral percale material dressed fancily trimmed with ruffle of same with lace, large assortment of ... to select from, 16 inches high with large white bow tied at string bows fine quality satine ... 2.75



N15125—DOLL OF LACE—Eyelashes and genuine human hair wig, long curls with silk ribbon hair bows, dressed in white organdy, double skirt, ribbon sash, pearl bead necklace. Full cork stuffed, inside reinforced, 16 inches high ... 4.00

N15131—GIRL DOLL—Dressed in assorted colored ... piece fancy dresses. Large ... white lawn collar, lawn ... and ribbon to match ... dressing peaked with white lace. Side parted sewed curly wig with ribbon bow. Fine quality removable underwear, shoes and stockings. Height, 18 inches ... 4.00

N15131 22

N15132—GIRL DOLL—Dressed in dotted Swiss dresses trimmed with lace insertions, broad ... sewed mohair wig ... ace effect. Large ... bow part of skirt effect ... trimmed with colored ribbon bow. Fine quality ... white underwear, shoes and ... Side parted sewed curly wig and ribbon natural curls and ribbon bows. Height, 20 inches ... 4.00

N15133—GIRL DOLL—Dressed in sateen of fine quality ... dresses, elegant ... and colorband piped with ... dress effect. Large ... bretelle ... broad ... and colored satin ribbon ... trimmed with ... and rosettes to match shoulder straps, edged with broad ... lace. Side parted, sewed wig with extra curls and rosette. Height, 20 inches ... 4.00

N15134—DOLL—Dressed in white ... dainty with ... and ... wig, removable shoes and stockings, moving eyes ... mohair wig, lace and ribbon trimmed hat, height, 19 inches ... 4.00

N15135—GIRL DOLL—Dressed in fine dotted Swiss dresses with double flounces piped with colored baby ribbon, broad sash of colored baby ribbons to match trimmings. Lace collar and cuffs piped with trimmings to match dressing, large picture hat of same material as dress trimmed with colored baby ribbon rosettes. Fine quality real sewed wig with side parted curls and ringlet curls trimmed with lace colored satin bow to match trimmings of dress. Size 24 inches ... 6.00

N15136—GIRL DOLL—Dressed in fine white muslin dress trimmed with good quality lace and piped with same. Fancy ... insertions and tucking. Two solid colored baby ribbon rosettes in pink and blue. Fine quality lace cuffs, solid colored sash and ribbon bows to match. Large picture of ... dress edged with lace. Large white ... picture hat trimmed with satin ribbons and rosettes to match trimmings. Real hair, corkscrew curls with side part and ribbon bows. Size 28½ inches ... 6.00

N15137—LARGE SHOW DOLL—Dressed in fine quality dotted Swiss dresses with ... a single flounce of broad good quality lace ... piped with ... Fine quality lace, short collar of same, ... dress edged with broad lace ... Large lace ruffles, large baby effect hat with ... Real hair ... Side parted ... dressing, edged with broad lace, and broad colored satin tied ribbons in bow effect. Good quality underwear trimmed with lace ... side parted real hair, sewed wig with corkscrew curls trimmed with colored bows ... Size 32 inches ... 6.75

N15138—GIRL DOLL—Dressed in fine white ... dresses with ... and ... baby ribbon rosettes in pink and blue, ... broad, good quality, ... lace, short collar of same material as dress edged with broad lace ... Large lace ruffles, large baby effect hat with ... Real hair ... Side parted ... dressing, edged with broad lace, and broad colored satin tied ribbons in bow effect. Good quality underwear trimmed with lace ... side parted real hair, sewed wig with corkscrew curls trimmed with colored bows ... Size 32 inches ... 6.75

N15139—GIRL DOLL—Dressed in fine quality white lawn dress trimmed with double ... of same, ... lace, baby ribbons, fancy tied bow to match ... dressing, edged ... with ... lace ... to match dressing, trimmed with solid colored broad turned back brim edged with a double row of lace. Finest ... hair ... Size 36 inches ... 6.75

N15181 F...SY GIRL In white organdy dress, double skirt, ... lawn ... embroidered ... piped edging, real silk sash, ... lace collar ... ribbon ... with a silk veil worn ... to ... fashion. Doll ... real ... head ... sewed ... Some ... removable shoes and stockings. Height 17 inches ... 3.00

N15182

N15183—FANCY GIRL—In assorted colors Lisere silk dress, very ... designed with ... velvet ribbon sash, shoulder ... hand shoulder ... ribbon ... very fancy ... Real silk ribbon bows, ... composition arms, ... removable shoes and stockings. ... curls stuffed cork ... reinforced head, ... good ... Height 19½ inches ... 3.00

N15184—BEAUTIFUL GIRL—Dressed in white organdy dress, double skirt, ... trimmed with ... lace ... ribbons sash, very fancy ... made of ... Real ... Some ... removable shoes and ... colored ... fancy ... trimmed ... hand ... wig with ... curls, ... ribbon ... a ... ribbon, ... lace ... ribbon, ... neck ... removable ... shoes and ... Large ... doll ... stuffed ... head ... side reinforced ... Height, 26 inches ... 3.00

N15242

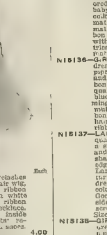
Dressed Jointed Doll

Each

N15131—GIRL DOLL—Dressed in assorted colored ... piece fancy dresses. Large ... white lawn collar, lawn ... and ribbon to match ... dressing peaked with white lace. Side parted sewed curly wig with ribbon bow. Fine quality ... removable underwear, shoes and stockings. Height, 18 inches ... 4.00

Dressed Jointed Doll

N15242—FULL JOINTED BODY—With real human hair wig, moving eyes, fine white lace trimmed dress, removable shoes and stockings. Height, 21 inches ... 4.25



Each

N15137 6.00

N15185—29

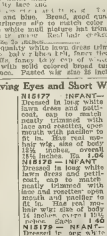
Each

N15138 6.75

N15139 6.75

Baby Dolls With Wigs, Moving Eyes and Short White Dresses

N15170—BABY With genuine Mohair wig, dressed in white lawn dress, lace trimmed cap to match trimmed with bows and rosettes, baby-pink flat with ... stockings, size 12 inches ... 1.50



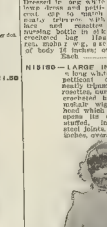
N15177 INFANT—Dressed in long white lawn dress and petticoat, cap to match neatly trimmed with lace and insertion, ... mouth with pacifier to ... Has real mohair wig, size of body 12½ inches, overall ... inches ... 2.00

N15178—INFANT—Dressed in long white lawn dress and petticoat, cap to match, neatly trimmed with lace and insertion ... with real mohair wig, has ... and pacifier to ... Size of body 14 inches, overall 16 inches ... 2.00

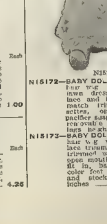
N15177 9

N15179—INFANT—Dressed in long white lawn dress and petticoat, cap to match, neatly trimmed with lace and insertion, ... and pacifier to ... Has real mohair wig, has ... and ... Size of body 14 inches, overall 16 inches ... 2.00

N15180—LARGE INFANT—Dressed in long white lawn dress and petticoat, cap to match, neatly trimmed with lace and insertion, ... and pacifier to ... Has real mohair wig, has voice in head which cries when baby opens its eyes, fully cork stuffed, finish reinforced joint points, size of body 18 inches, overall 21 inches ... 3.00



N15171—BABY—With real mohair wig, in white lawn dress trimmed with lace, cap to match trimmed with lace, lace cover mouth and pacifier suspended from neck, baby has ... shoes, white stockings height 12½ inches ... 1.00



N15172-T

N15172—BABY With real mohair wig, dressed in white lawn dress and petticoat, cap to match trimmed with ... pacifier suspended from neck ... has ... shoes and stockings ... 1.20

N15173—BABY With real mohair wig, dressed in white lawn dress, ... trimmed with lace ... to match trimmed with insertion ... open mouth with pacifier ... Baby shaped flesh color foot ... shoes and stockings, height 16 inches ... 1.60

Each

N15174 2.00

N15175 2.00

N15176 2.00

N15177 9

N15178 2.00

N15179 2.00

N15180 3.00

N15172-T

N15173 1.20

N15174 1.60

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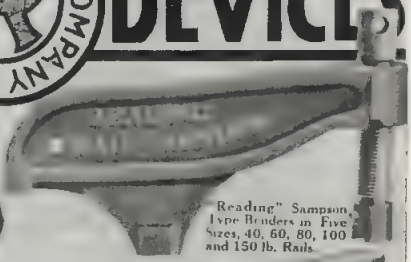
TRACK DEVICES

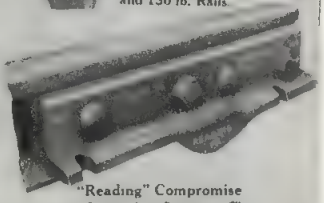
READING SPECIALTIES COMPANY

Bender for All Rail Sections

HOOK Reverse Hook for Right or Left Hand Use



"Reading" Sampson Type Benders in Five Sizes, 40, 60, 80, 100 and 150 lb. Rails.



"Reading" Compromise Joints Are Stronger Than Your Rails and We Can Prove It.

READING TRACK DEVICES

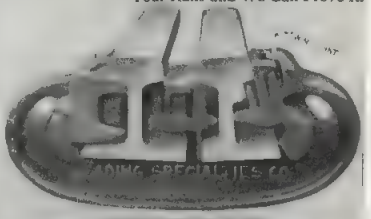
Are all made of

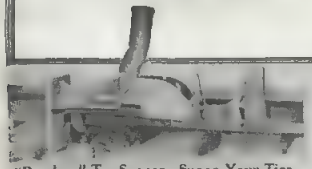
Reading Special Heat Treated Cast Steel

Always in stock ready for immediate shipment

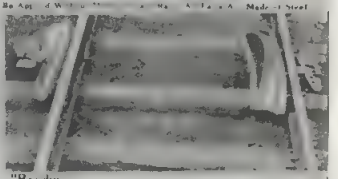
READING SPECIALTIES Co

READING, PA.





"Reading" Tie Spacer. Space Your Ties With a Jack. Saves Time and Money.

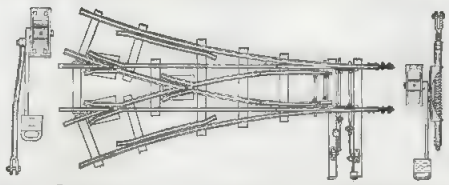


"Reading" Replacer Clamps Fit Any Replacer. Safety First You Do Not Have to Get Under Engine or Cars.

"Reading" Car Replacers and Clamps. No Spiking Required.

MADE IN READING PA

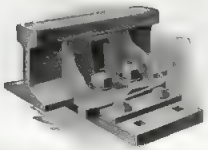
Frogs
Switches
Crossings
Cross-Overs
Switch Stands
Guard Rails
Rail Braces



Portable Track
Turnouts
Tipple Track
Industrial Track
Decauville Track
Light Rails
Fish Plates

The Central Frog & Switch Co.
Cincinnati, Ohio
Track Equipment for Mines, Mills, Railroads and Quarries

PETTIBONE MULLIKEN CO.
725 MARQUETTE BUILDING
CHICAGO



The MORDEN ADJUSTABLE RAIL BRACE

For use on Slip Switches, Switches and Guard Rails, and is particularly well adapted to interlocked switches or wherever gage plates are employed.

Extremely Simple and Easily Installed. Made of High Grade Malleable Iron.

Morden Frog and Crossing Works
CHICAGO

TRACK SPECIALTIES CO.
29 BROADWAY
NEW YORK

"Superior" Rail Joints
"Trasco" Step Joints
"Superior" Rail Benders
"Superior" Derailers
"Trasco" Insulated Joint
"Trasco" Adjustable Track Shim
"Trasco" Guard Rail Clamp
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"Trasco" Tie Plate
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"Trasco" Rail Chair
"Trasco" Car Stop
"Trasco" Rail Anchor
"Trasco" Padded Tie Plates

Frogs—Switches—Relaying Rail—Castings—Forgings—Standard and Special Track Fittings.

Kitchen, Wall, Office and Electric Alarm Clocks

Kitchen Clocks

No. 60W60. Victor Assortment of Kitchen Clocks, very fancy ornamental cases, made of seasoned wood, varnished finish, 22¾ in. high, fancy carved, ornamented glass doors, fitted with guaranteed American movements, 8-day half hour strike, best values in the line, assorted 3 styles, 2 of each, 4 oak and 2 walnut finish, in case, no less sold.
Per case of 6 ..... 20.00

"WIZELITE" AUTOMATIC ELECTRIC ALARM CLOCK.

No. 60W62. Automatic Electric Light Alarm Clock. Fine enamel mahogany finish cabinet, height 10½ inches, width 8¾ inches; reliable clock movement, 4¼ inch dial with large enameled figures, with push button extension. Push the button and ascertain the time at any hour of the night. Alarm is electric and needs no winding. You cannot fail to be on time with this clock. You must set up and switch off the electric alarm. Operated with dry battery that will last from one to two years and easily replaced. The most simple and practical automatic electric alarm clock on the market. Handsome in appearance and unfailing in action. Each 6.25

Regulator

Store Clock, fancy oak case, height 87 in., width 16¼ in., 12 inch dial.

No. 60W61. 8 Day Time. Each 7.5

No. 60W62. 8 Day Strike. Each 8.25

No. 60W63. 8 Day Time Calendar. Each 7.55

No. 60W64. 8 Day Strike Calendar. Each 8.55

Combination Clock

No. 60W70. Combination Clock, strictly high grade, ornamental, guaranteed clock, with Calendar, Barometer and Thermometer, oak case, 25 in. high, 15½ in. wide, 8-day, ½ hour strike, with calendar, a very desirable and reliable timekeeper. A popular, staple clock. Each 4.20

Hall Regulator

Store or Hall Clock, 12 in. dial, octagon drop. Guaranteed movement. Solid oak case, gloss polish. Fancy veneer front. 27 in. high.

	Each
60W65. 8 day time	5.50
60W66. 8 day with calendar	5.75
60W67. 8 day strike	6.65
60W68. 8 day, strike calendar	7.75

No. 60W104. Brazilian Solid Oak Hanging Wall Clock, 8 day, half hour strike, height 26 inches, width 12½ inches, dial 6 inches. Packed six in a case, solid oak or dark wood. Each 4.65

REVOLVING CASES AND SECTIONAL CABINETS

REVOLVING SCREW AND BOLT CASES

No. 10

Has 72 drawers; height, 33 inches; width, 21 inches
With Knobs . . . . each **50 00**
" " and Label Holders " **57 00**

No. 12

Has 80 drawers; height, 36 inches; width 21 inches
With Knobs . . . . each **56 50**
" and Label Holders " **60 00**

No. 14

Has 88 drawers; height, 39 inches; width, 24 inches
With Knobs . . . . . each **62.00**
" and Label Holders " **65 00**

No. 16

Has 96 drawers; height, 42 inches; width, 24 inches.
With Knobs . . . . . each **66.50**
" " and Label Holders " **70 00**

No. 20

Has 96 drawers; height, 60 inches; width, 30 inches.
With Knobs . . . . . each **102 00**
" " and Label Holders each **108 00**

No. 22

Has 104 drawers height 65 inches; width, 30 inches
With Knobs . . . . . each **110.50**
" " and Label Holders each **116.00**

Special sizes and designs to suit special sized cabinets made to order.

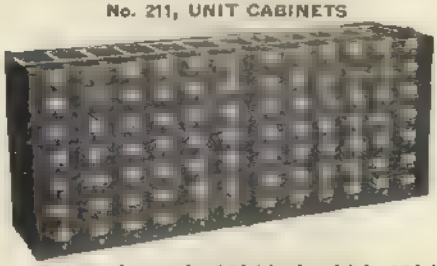
An index card is furnished with each cabinet so that its contents can be easily found.

HELLER SECTIONAL CABINETS

No. 1771, SUNDRY CASES

Contains 126 dust-proof steel drawers; has steel back. Contains 120 drawers 5 inches wide by 2¼ inches deep and 6 drawers 10 inches wide by 6 inches deep, 10, 12, 15 or 18 inches long
Price, with Drawers 10 In. Long each . . .

No. 211, UNIT CABINETS



50¼ inches wide, 20¼ inches high, 12½ inches deep. Both ends paneled. Steel back. Has 84 steel boxes, 4 inches wide, 2 inches deep, 12 inches long.
Price . . . . . each . .

No. 212, UNIT CABINETS

50¼ inches wide, 20¼ inches high, 12½ inches deep. Both ends paneled. Steel back. Has 56 steel boxes.
Price . . . . . each

Also made in solid oak, golden, antique finish. Other finishes to order.

Write us Your Requirements for Goods Not Listed.

Robertson's Rapid Cut Power Saws

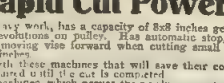
No. 3 machine was designed for heavy work, has a capacity of 8x8 inches geared 3 to 1 pulley 13½x2½ inches. Speed, 120 to 130 revolutions on pulley. Has automatic stop, graduated feed and swivel vise with slot in bed to allow moving vise forward when cutting small stock, thus using all the blade. Length of blade, 17 inches.

Many special jobs can be done with these machines that will save their cost in a few days. After starting, no more attention is required until the cut is completed.

Many shops use from two to ten machines, which proves their value as cost reducers.

No. 4 machine embodies all the good features of our machine in smaller size, and is designed more for structural steel cutting, such as I Beams, Tees, Angles, etc.; has a capacity of 6x15 inches, geared 2 to 1 or pulley; 24-inch saw blade with loose rim, which can be swiveled for cutting bevels, or the vise may be moved and the work clamped to bed.

Users write us this machine has paid for itself in three days' work, as a smooth, square cut can be made and practically without cost, as no attention is required after starting a cut. After a few cuts are made with a blade the weight may be changed to the top of frame where the rod is shown.



ROBERTSON MANUFACTURING CO., 1443-1453 Niagara St., BUFFALO, N. Y.

Machines, Polishing, Floor
American Flour Softening Mach Co., Toledo, O
Kelley Electric Machine Co., Buffalo, N. Y.
Schluetter, M. L., Chicago.

Machines, Polishing, Metal Grinders, Emery See Lathes, Buffing and Polishing

Machines, Polishing, Stone
Concord Axle Co., Penacook, N. H.
Cross Bros. Co., Northfield, Vt. (Electric)
Hasey-Wolf Mach Co., Cincinnati, O
Lane, W. A., Barre, Vt.
Lincoln Iron Wks, Rutland, Vt
Patch Mfg. Co., F. R., Rutland, Vt.
Smith, Whitcomb & Cook, Barre, Vt.

Machines, Polishing, Textile
Parks & Woolson Co., Springfield, Vt.

Machines, Post, Concrete
Francis Machinery Co., St. Louis, Mo

Machines, Postage Meter
Pitney-Bowes Postage Meter Co., Stamford Conn.

Machines, Power, Hack Saw
Armstrong-Blum Mfg. Co., 3335 N. Francisco Ave., Chicago **See Page 7**
We make hack saw machines for all purposes automatic high speed which feed the bar automatica general work high speed, and also gang work moderate speed shop saws. Write for catalog.
Robertson Mfg. Co., Inc., The, 1443 Niagara St., Buffalo, N. Y. **See Page 7**
This firm is the original manufacturer of "THE RAPID CUT POWER HACK SAW." The machine that is in operation in every country in the world, and is known where machine tools are used as a tool worthy of consideration. In R. R. Shops, Navy Yards, War Ships, Boiler Works, Structural Shops, anywhere that a power saw is required the "Rapid Cut" will answer the purpose with satisfaction. They are built in nine different sizes and styles, taking capacities from 4x4 inches to 18x30 inches, and can be mounted on either high or low legs.

Machines, Power Transmitting See Machinery, Power Transmitting

Machines, Preserving Timber
Allis-Chalmers Mfg. Co., Milwaukee, Wis.

Machines, Press, Brick
Arnold-Creager Co., New London, O.
Brewer & Co., H., Tecumseh, Mich
Chambers Bros. Co., Philadelphia, Pa.
Chisholm Boyd & White Co., Chicago.
Excelsior Tool & Mach Co., E. St. Louis, Ill
Fate-Root-Heath Co., The, Plymouth, O.
Fernholtz Brick Machine Co., St. Louis, Mo.
International Clay Machy. Co., Dayton, O.
Potts & Co., C. & A., Indianapolis, Ind.
Ross Keller Triple Pres. Br. Mach. Co., St Louis, Mo.
Stearns Company, Erie, Pa.
Steele & Sons Co., J. C., Statesville, N. C.
United Iron Works Co., Kansas City, Mo.
Wallace Mfg. Co., Frankfort, Ind.

Machines, Printing See Presses, Printing

Machines, Printing, Cloth
Butterworth & Sons Co., H. W., Philadelphia, Pa.
Leigh & Butler, Boston, Mass
Morrison Machine Co., Paterson, N. J.
Rice, Barton & Fales, Worcester, Mass
Sayles Finishing Mfgs. Co., Providence, R. I.
Van Vlaanderen Mach Co., Paterson, N. J.

Machines, Printing, Wood
(For printing on wooden containers and boxes.)
Morgan Machine Co., Rochester, N. Y

Machines, Pro-Filing
Leland-Gifford & Co., Worcester, Mass.
Racine Tool & Machine Co., Racine, Wis.
Wade-American Tool Co., Boston, Mass.

Machines, Prospecting
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Keystone Driller Co., Beaver Falls, Pa.
.....See Advt. Index, Page 7
Sanderson-Cyclone Drill Co., Orrville, O.

Machines, Pulling, Flax See Machinery, Harvesting

Machines, Pulling, Stump See Pullers, Stump

Machines, Pulverizing See Pulverizers

Machines, Pumping See Pumps, Various Classifications

Machines, Punching and Coping See Punches and Coping Machines

Machines, Punching and Shearing See Punches and Shears, Various Classifications

Machines, Punching and Shearing, Triple and Quadruple Combined
Pels & Co., Henry, 90 West St., New York.
..... See Advt. Index, Page 7
For punching angles and Tees, square or on miter, rounds, squares, flats, beams, channels or any other rolled shapes. Shearing Plates and Punching all widths of plates. Planers beds of TORQUED STEEL PLATES GUARANTEED ABSOLUTELY UNBREAKABLE.

Machines, Quartering
Nike Bement-Pond Co., New York

Machines, Radiator
Ross Heater & Mfg. Co., Inc., 1407 West Ave., Buffalo, N. Y.
Power Pressed Sections are used by all leading manufacturers of steam and hot water radiators. Special automatic radiator machines made for the following types of radiators: Wall Radiator Sections with cast iron feet. Cabinet Radiators with cast iron screw nipples. Column Radiators with cast iron Corbel or Corner Radiators. These machines have automatic take-up to compensate for frame. Right and left hand nipple bending machines for nipples with screw. Assembling machines for Pin screw and Push nipple radiators.

These machines built for accurate and continuous work. Do not require skilled operator. Will produce more output than any other method of fabricating radiators. Thirty years' experience in this line of machines.
Toledo Machine & Tool Co., Toledo, O.

Machines, Reaming and Tapping, Portable
Beck & Corbitt Iron Co., 1232-1244 Main St., St. Louis, Mo ..... See Advt. Index, Page 7
Belsaw Mfg. Co., St. Paul, Minn. (Pneumatic.)
Ingersoll-Rand Co., New York ..... See Page 7
Syerson & Son, Jos. T., Chicago, New York, Buffalo, St. Louis, Detroit ..... See Advt. Index, Page 7

Machines, Reboring, Cylinder
Heiser Special Tool Co., Kingston, Mo.
Manning, Maxwell & Moore, New York
Fedrick Tool & Machine Co., 2828 N. Lawrence St., Philadelphia, Pa. ..... See Page 7
Underwood Corporation, H. B., 1025 Hamilton, St., Philadelphia, Pa. ..... See Page 7

Machines, Receipting
American Perforator Co., The, Chicago.

Machines, Reclaiming, Insulated Wire
American Insulating Machinery Co., Philadelphia, Pa.

Machines, Reclaiming, Journal Box Packing
Oil & Waste Saving Machine Co., The, 1509 Real Estate Trust Bldg., Philadelphia, Pa. ..... See Advt. Index, Page 7

Machines, Refrigerating See Machines, Ice and Refrigerating

Machines, Resawing See Resaws

Machines, Re-Seating, Valve
Bay State Grinder Co., Worcester, Mass.
Harper Mfg. Co., Port Huron, Mich.
Lodi Machine Co., Orange, Mass.
Skinner Co., M. R., Chicago.
Tower, H. R., Holyoke, Mass.
Valve Seating Tool Co., Southport, Conn.
Williams & Wells Co., 250 Fulton St., New York ..... See Advt. Index, Page 7
Wolverine Brass Works, Grand Rapids, Mich.

Machines, Rewinding
Lam Coil Machine Co., Brooklyn, N. Y.
Snyder Press Co., Dover, N. H.
Langston Co., S. M., Camden, N. J.
Meisel Press & Mfg. Co., Boston, Mass.

Machines, Ribbon, Typewriter
Shallcross Company, The, Philadelphia, Chicago and San Francisco.

Machines, Rim See Machines, Hub, Spoke and Rim

Machines, Rim, Metal Forming and Coiling
Yoder Co., 58th & Walworth Ave., Cleveland, O ..... See Advt. Index, Page 7

SEE ALSO MACHINERY, UNDER VARIOUS CLASSIFICATIONS

Locomotive Coaling Plants
"RandS" Gravity Sand Plants
Cinder Handling Plants
Portable Coaling and Ground Storage Plants

AMERICA'S FOREMOST DESIGNERS AND BUILDERS

ROBERTS AND SCHAEFER CO.
ENGINEERS AND CONTRACTORS - CHICAGO, U.S.A.

Locks, Trunk

H & A Lock Co., Brooklyn, N. Y.
Triple Metals Corp., The, Waukegan, Ill. (Keyless.)
Yale & Towne Mfg. Co., The, Stamford, Conn.

Locks, Wardrobe

National Lock Company, Rockford, Ill.... See Advt. Index, Page 7
Sargent & Greenleaf, Inc., Rochester, N. Y.....See Advt. Index, Page 7

Locks, Window Ventilating See Locks, Sash Ventilating

Locomotive and Locomotive Material Inspection

Hunt & Co., Robert W., 2200 Insurance Exchange, Chicago See Advt. Index, Page 7
Lovell, Alfred, 619 Harrison Bldg., Philadelphia, Pa. See Advt. Index, Page 7

Member, American Society Mechanical Engineers American Railway Association (Mechanical Section) and American Society for Testing Materials. Technical training supplemented by practical experience in civil and mechanical departments of industrial and railway companies, insures special qualifications for investigations of properties and plants, and planning facilities and equipment. Mr. Lovell's experience as Supt. Motive Power and Equipment of large trunk railways, gives familiarity with requirements and adds especial value to the service offered. Supervision and Inspection of equipment construction a specialty.

Locomotive Coaling Plants See also Stations, Coaling, Locomotive

Bartlett & Snow Co., The C. O., Cleveland, O. See Advt. Index, Page 7
Fairbanks, Morse & Co., 900 S. Wabash Ave., Chicago See Advt. Index, Page 7
Howlett Construction Company, Moline, Ill.
Jones Company, The Fred E., 111 W. Washington St., Chicago.....See Page 7

We build railroad coaling stations from plans as submitted to us.

Link-Belt Co., Chicago and Philadelphia. See Advt. Index, Page 7
Roberts & Schaefer Co., Wrigley Bldg., Chicago..... See Advt. Index, Page 7

Designers and builders of Standard Counter-balanced Bucket and Balance Bucket Locomotive Coaling Plants for the simple and economical handling of locomotive fuel. We recommend reinforced concrete and steel construction, but also build of timber if desired.

Locomotive Fuel Oil Supply Stations See also Stations, Fuel Oil Supply, Locomotive

Miller Heating Co., F. W., 314 McCormick Bldg., Chicago.
National Boiler Washing Co. of Illinois, Railway Exchange, Chicago.. See Page 7

Locomotive Lubricators See also Lubricators, various classifications

Detroit Lubricating Co., Detroit, Mich.
Edna Brass Mfg. Co., The, Cincinnati, O.
Georgia Car & Locomotive Co., Atlanta Ga.
Hunter Pressed Steel Co., Pierce & Linden Sts., Lansdale, Pa See Advt. Index, Page 7
Locomotive Lubricator Company, N. Michigan Ave., Chicago See Page 7
Ohio Injector Co., The, 1497 Monadnock Block, Chicago. See Advt. Index, Page 7

The Chicago Lubricator is up-to-date, and the much talked-of difficulties in connection with the lubrication of Valves and Cylinders of Locomotives equipped with Superheaters disappear when the "CHICAGO" is used. It gives a regular feed and a regular delivery of the valve oil, regardless of the steam pressure, throttle or reverse lever position.

Locomotive Sanding Plants

Howlett Construction Company, Moline, Ill.

Locomotives, Compressed Air

Porter Co., H. K., Union Bank Bldg., Pittsburgh, Pa. See Advt. Index, Page 7

Builders of Locomotives, Light and Heavy, Narrow and Wide Gauges, Steam, Fireless and Two-Stage Compressed Air. Special attention to Export Trade.

Vulcan Iron Works, Wilkes-Barre, Pa.

Locomotives, Contractors' See also Locomotives, Mining, Electric

Beck & Babb, 29 S. La Salle St., Chicago. ..... See Advt. Index, Page 7
Bell Locomotive Works Inc New York
Dewey Supply Corporation, 18 W. 34th St., New York.....See Advt. Index, Page 7
Fate-Root-Heath Co., The, Plymouth, O.
Georgia Car & Locomotive Co., Ridge Ave. and Southern Ry., Atlanta, Ga. See Page 7
Heister Locomotive Works, Erie, Pa.
Hubbard-Floyd Co., Inc., The, 1112 Grand Central Palace, New York.... See Page 7
Koppel Industrial Car & Equipment Co., Koppel, Pa.....See Advt. Index, Page 7
Lima Locomotive Corp., Lima, O.
Machinery Sales Co., 804-838 S. Dearborn St., Chicago . See Advt. Index, Page 7
Mancha Storage Battery Locomotive Co., 1909 So. Kingshighway, St. Louis, Mo. See Advt. Index, Page 7

Mancha's Electric Mule is light, sturdy and will pull its weight in "wild cats." It operates successfully on 12-pound steel and up, and the road bed need not savor of a boulevard. No bonding of rails, no trolley wires or cables necessary. Its self-contained power enables it to go wherever tracks can be laid. It operates identically the same in either direction and is without doubt the cheapest and most efficient system of haulage in existence today.

Milwaukee Locomotive Mfg. Co., Milwaukee, Wis.
Porter Co., H. K., Union Bank Bldg., Pittsburgh, Pa See Advt. Index, Page 7

Builders of Locomotives, Light and Heavy, Narrow and Wide Gauges, Steam, Fireless and Two-Stage Compressed Air. Special attention to Export Trade.

Reading Engineering Co. Inc., New York.
Vulcan Iron Works, Wilkes-Barre, Pa.
Whitcomb Co., Geo. D., Rochelle, Ill See Page 7
Wilson & Company E. H., Philadelphia, Pa.
Zelnicker Supply Co., Walter A., 325 Locust St., St. Louis, Mo....See Page 7

Locomotives, Electric

American Locomotive Co., New York.
Atlas Car & Mfg. Co., The, 1140 Ivanhoe Road, Cleveland, O See Page 7
Automatic Transportation Co., The, Buffalo, N. Y.
Brill Co., J. G., Philadelphia, Pa.
Dewey Supply Corporation, 18 W. 34th St., New York .. See Advt. Index, Page 7

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE.

IRON DUMB BELLS.

MARKET PRICE

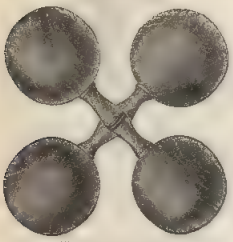
Black Finish. Net per lb.

Sizes 2, 3, 4, 5, 6, 7, 8, 10, 12, 15, 20 and 25lb.

A pair of 1 lb. dumb bells weighs 2 lbs

MAPLE DUMB BELLS.

MARKET PRICE



First Quality Maple, Finished in Hard Oil, Polished.

Pounds	½	¾	1	
Net per dozen pairs				
Pounds	1½	2	3	4
Net per dozen pairs				

A pair of 1 lb. dumb bells weighs 2 lbs

MAPLE INDIAN CLUBS.

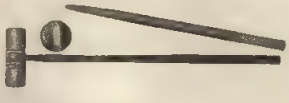
MARKET PRICE

Finest Quality Maple, Finished in Hard Oil, Polished.

Pounds	½	¾	1	1½	2
Net per doz. pairs					
Pounds	3	4	5		
Net per dozen pairs					

A pair of 1 lb. Indian clubs weighs 2 lbs.

CROQUET SETS.



	Net per set
NO. 04—4 ball set, 5 in. mallets, beaded and striped, oil finish, weight 14 lbs. per set	$3.50
NO. 06—6 ball set, otherwise same as No. 04, weight 16 lbs. per set	4.30
NO. 08—8 ball set, otherwise same as No. 04, weight 20 lbs. per set	5.00
NO. 14—8 ball set, oiled, 5 in. mallets, weight 24 lbs. per set	4.50
NO. 16—8 ball set, oiled, 5 in. mallets, weight 28 lbs. per set	5.00
NO. 18—8 ball set, oiled, 5 in. mallets, weight 20 lbs. per set	6.00

	Net per set
NO. 34—4 ball set, low priced professional set, 8 in. mallets, beaded stakes, nicely varnished, basswood box, weight 17 lbs. per set	$6.00
NO. 36—6 ball set, otherwise same as No. 34, weight 21 lbs. per set	7.50
NO. 38—8 ball set, otherwise same as No. 44, weight 24 lbs. per set	9.00
NO. 44—4 ball set, 6 in. mallets, select white maple, finished with high grade varnish, weight 22 lbs. per set	7.50
NO. 46—8 ball set, otherwise same as No. 44	9.10

	Net per set
NO. 64—4 ball professional set, 8 in. mallets, finished in white shellac and polished, a very high grade set, weight 17 lbs. per set	$11 00
NO. 66—6 ball set, otherwise same as No. 64	12.00
NO. 68—8 ball set, otherwise same as No. 64	13 50
NO. 74—4 ball professional set, 9 in. mallets, shellac polish, octagon handles, weight 17 lbs per set	9.00

Celluloid Balls and Toys

T17685—CELLULOID BALL—Colored in combinations of white and pink, white and blue, well constructed and durable. 4 inches in diameter. Packed 1 dozen in box. Per doz. 1 92

T17686—SPECIAL QUALITY CELLULOID BALLS—Made in one piece, contains small ball assorted colors, combination of white, pink and blue. 2½ inches in diameter. ½ dozen in carton 6.60

T17684—CELLULOID ASSORTMENT—Of fancy figures wearing clown costumes, high-colored celluloid and lacquered, average height 6½ inches high. Packed 1 dozen in box. 4.00

T17695—CELLULOID CLOWN FIGURES—White suit with red and blue color design. 7½ inches high, centains steel cap to be used as rattle. Each in box 7.60

T17674—FLOATING TOY GUNBOAT—Made in fast colored battleship gray. Excellent quality, 6 inches long. Packed each in box. 1.92

Celluloid Animals

T17677—CELLULOID ANIMALS—Domestic assortment, including horses, pigs, sheep, dogs and cows, each in natural color. Length 4 inches. 1 dozen in box, not broken.... Per doz. 1.92

T17679—CELLULOID WILD ANIMAL ASSORTMENT—Including bears, elephant, tigress, lion, rhinoceros and camel. Length 2½ inches. 1 dozen in carton ..... Per doz. .72

T17680—CELLULOID WILD ANIMAL ASSORTMENT—Consisting of lions, bear, elephant and buffalo, each in natural colors. 1 dozen in box 1.25

T17681 CELLULOID WILD ANIMAL ASSORTMENT Polar bears, elephant, camel, Scotch buffalo, grizzly bear and tiger, each in natural colors. 1 dozen in box 2.16

Celluloid Roly Polys

T17696—CELLULOID ROLY POLY ASSORTMENT—Consisting of sitting dog, cat and rabbit in attractive red, white and blue costume. Average height 3½ inches. Packed 1 dozen assorted to carton Per doz. 2 16

T17697—CELLULOID ROLY POLY ASSORTMENT—Consisting of Uncle Sam, Soldier Boy, Sailor Boy, Red Cross Nurse. Height, 3½ inches. Nicely decorated. 1 dozen in box, not broken 2 25

Papier Mache Roly Polys

T18279—SNOWMAN ROLY POLY—Nicely decorated and well made. 10½ inches high..... Per doz. 9 00

T17923—ROLY POLY—Policeman, Indian and Clown, painted in bright colors; average height 6 inches. 1 dozen in a box, not broken 2.00

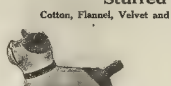
T18239—ASSORTED PAPIER MACHE ROLY POLY—Including Santa Claus, Foxy Grandpa, Soldier, Policeman, Indian and Clown. Average height 5½ inches. ½ dozen in box, not broken. ..... Per doz. 5.30

Velvet Covered Cat

T17978—FINE QUALITY VELVET COVERED CAT, DOG OR BEAR—On four wheel platform. Ribbon tied around neck. Average height 5½ inches. Height 8 inches..... Per doz. 10.20

Stuffed Toys

Cotton, Flannel, Velvet and Plush Covered Animals



Woolly Fur Animals

T17931—ASSORTED FELT COVERED ANIMALS—Including Cat, Dog, Cow, Lion, Elephant and Tiger, average length 5½ inches. ½ dozen in box, not broken ..... Per doz. 2 00

Flannel Covered

T17932—ASSORTED FLANNEL COVERED ANIMALS—With voice; length 7 inches. ½ dozen in box ..... Per doz. 4.00

T17986—PUPPY GRUMPY—Sitting dog. Fine quality Plush ears and tail, Velvet body, bellows voice. Length 5½ inches. Height 8 inches..... Each 6.00

T17987—PUPPY GRUMPY—Sitting dog. Fine quality Plush ears and tail, Velvet body, bellows voice. Length 7 inches. Height 9 inches..... Each 1.00

T17988—PUPPY GRUMPY—Sitting dog. Fine quality Plush ears and tail, Velvet body, bellows voice. Length 9 inches. Height 10 inches ..... Each 1.25

T17969—BONE DRY CHARACTER DOG—Sitting position. Made of fine quality brown Velvet. Height, 9 inches. Length 8 inches ..... Each 1.00

T17990—ASSORTMENT OF FINE QUALITY VELVET COVERED ANIMALS—With squeak voice, including elephant, bear, dog, cat, and pig. Average length 6 inches. Height 5½ inches. 1 dozen in box, not broken..... Per doz 9.00

Velvet Covered

T17980—FINE QUALITY VELVET COVERED BEAR—With glass eyes, ribbon around neck, with bellows voice. Length 7 inches..... Each 6.40

T17981—FINE QUALITY VELVET COVERED ELEPHANT—With glass eyes, ribbon around neck, with bellows voice. Length 7 inches..... Each 5.40

T17982—FINE QUALITY VELVET COVERED CAT—With glass eyes, ribbon around neck, with bellows voice. Length 7 inches..... Each 6.40

T17983 FINE QUALITY VELVET COVERED BULL DOG With glass eyes, ribbon around neck, with bellows voice. Length 7 inches..... Each 6 40

T17984—FINE QUALITY VELVET COVERED CAT—With glass eyes, ribbon around neck, with bellows Meow Voice. Length 10 inches..... Each 8.00

T17985—FINE QUALITY VELVET COVERED DOG—With glass eyes, ribbon around neck, with bellows voice. Length 7 inches ..... Each 5.00

Plush Covered

T17983—LONG PILE WHITE PLUSH COVERED POODLE DOG—With bellows voice, and glass eyes. Ribbon around neck. Length 6½ inches. Height 6 inches ..... Per doz. 9.00

T17984—LONG PILE WHITE PLUSH COVERED POODLE DOG—With bellows voice, and glass eyes. Ribbon tied around neck. Length 8 inches. Height 8 inches..... Each 1.00

T17985—LONG PILE WHITE PLUSH COVERED POODLE DOG—With bellows voice, glass eyes, ribbon tied around neck. Length 9½ inches. Height 9 inches..... Each 1 50

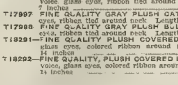
T17987 FINE QUALITY GRAY PLUSH CAT With bellows Meow voice, glass eyes, ribbon tied around neck. Length 8 inches. Height 8 inches..... Each 1.00

T17988 FINE QUALITY GRAY PLUSH BULL DOG—With bellows voice glass eyes, ribbon tied around neck. Length 8 inches. Height 8 inches..... Each 1 00

T18291—FINE QUALITY PLUSH COVERED CAT—With bellows Meow voice glass eyes, colored ribbon around neck. Length 12 inches. Height 14 inches..... Each 1 75

T18292—FINE QUALITY PLUSH COVERED BOSTON BULL DOG—With bellows voice, glass eyes, colored ribbon around neck. Length 12 inches. Height 14 inches ..... Each 1 75

Plush Covered Animals on Wheels



T1597, 72 "5 T16054 T15078 Each

T18071—FINE QUALITY BROWN PLUSH COVERED GRIZZLY BEARS—Built over a very strong steel frame and wheels, glass eyes and leather ear and nose for collar. Length 12 inches. Height 8½ inches..... 2.25

T18072—Same as T18071. Length 15½ inches. Height 12 inches..... 3.25

T18073—Same as T18071. Length 19 inches. Height 12 inches..... 3 80

T18074—FINE QUALITY WHITE AND BROWN PLUSH COVERED ST BERNARD DOG—Built over a very strong steel frame and wheels. Glass eyes and leather collar around neck. Length 18½ inches. Height 14 inches 4.80

T18078—FINE QUALITY BROWN PLUSH COVERED CAMEL—Built over a very strong steel frame, mounted on wheels. Glass eyes, leather collar and cloth saddle. Length 12½ inches. Height 11 inches..... 3.25

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Stuffed Animal Toys and China Toy Tea Sets

Stuffed Animal Toys

Plush Covered Animal on Wheels

T18076—FINE QUALITY GREY PLUSH COVERED ELEPHANT—On 6 wire wheels. Glass eyes. Length, 12½ inches ..... Height, 11½ inches ..... Each 3.25

Plush Covered Bears in Standing Position

T17990—FINE QUALITY PLUSH COVERED CINNAMON BEAR—In standing position. Glass eyes. Colored ribbon around neck. With voice. Length, 9 inches. Height, 6 inches ..... Per doz. 9.00

T17991—FINE QUALITY PLUSH COVERED CINNAMON BEAR—In standing position. Glass eyes. Colored ribbon around neck. With voice. Length, 13 inches. Height, 6 inches ..... Each 1.00

T17992—Same as T17991. Length, 13 inches. Height, 7½ inches..... 1.25

Plush Covered Stuffed Toy Animals In Rocking Chairs

T17995—FINE QUALITY PLUSH COVERED STUFFED TOY ANIMAL—In mechanical rocking chair. Length, 9 inches ..... Each 1.25

Plush Teddy Bears

PLUSH COVERED TEDDY BEAR—With shoe button eyes, colored ribbon around neck, with voice.

T18017—Length, 10 inches..... Per doz. 6.00

T18018—Length, 12 inches..... 6.50

T18019—Length, 14 inches..... 7.20

T18020—Length, 16 inches..... 8.00

T18021—Length, 18 inches..... 10.80

T18022—Length, 20 inches..... 17.50

T19023—Length, 22 inches..... Each 1.20

T19024—Length, 24 inches..... 1.30

Superior Quality Plush Bears

FINE QUALITY LONG PILE PLUSH COVERED TEDDY BEAR—With voice and glass eyes.

T18036—Length, 10 inches..... Per doz. 6.00

T18037—Length, 12 inches..... 9.00

Bears With Duplex Whistle in Ear

BEAVER COLOR PLUSH COVERED TEDDY BEAR—Squeeze whistle in ears. Glass eyes, colored ribbon around neck.

T18025—Length, 14 inches..... Per doz. 9.50

T18026—Length, 16 inches..... 11.40

T18027 Length, 18 inches..... Each 1.00

T18028—Length 20 inches..... 1.26

T18029—Length 22 inches..... 1.40

Fluffy Duplex Whistler Bear

Fine quality long pile plush, stuffed with white cotton. Extremely light and durable, with duplex whistle.

SUPERIOR QUALITY TEDDY BEAR—Extra long pile plush covered, stuffed with cotton, soft white, which makes the bear extremely light. Glass eyes, colored ribbon around neck, duplex whistle in ears.

T18030—Length, 12 inches..... Each 1.40

T18031—Length 15 inches..... 1.80

T18034—Length, 20 inches..... 2.34

T18038—Length, 22 inches..... 2.75

Schoenhut Humpty Dumpty Circus

The figures are made of solid wood, neither in a doll but much stronger. Neat and attractive in appearance and almost unbreakable. Head, arms and legs movable.

T18237—SET OF FOUR PIECES—Size of box, 12¾x8¾ inches..... Each 1.05

T18238—SET OF FOUR PIECES—Size of box, 15¾x9¾ inches..... Each 2.20

T18239—SET OF FIVE PIECES—Size of box, 17¾x11¾ inches..... Each 3.15

China Toy Tea Sets

T17858—TWO CUPS AND SAUCERS, SUGAR AND CREAMER TEA POT AND COVER—Delicately colored with gold decoration. Size of box, 7x9½ ..... Per doz. 2.25

T17859—TWO LARGE CUPS AND SAUCERS, SUGAR BOWL AND CREAMER, TEA POT AND COVER. Pansy floral design decoration with gold lines. Each in display box..... 4.50

T17875—FOUR LARGE STRAIGHT CUPS AND SAUCERS, SUGAR BOWL AND CREAMER, ROUND TEA POT AND COVER. Pansy Japanese design gold lines, in center in package 9.00

T17860—TWO LARGE CUPS AND SAUCERS, SUGAR BOWL, AND CREAMER, FLAT TEA POT WITH COVER—Decorated floral designs with gold lines. Each in display box 5.50

T17876—FOUR LARGE STRAIGHT CUPS AND SAUCERS, SUGAR BOWL AND CREAMER, FLAT TEA POT AND COVER. Highly decorated in Japanese design 6.00

T17861—TWO LARGE CUPS AND SAUCERS, SUGAR BOWL, AND CREAMER, TEA POT WITH COVER—Pansy decorated with floral designs with gold lines. Each in display box 6.00

T17862—THREE LARGE CUPS AND SAUCERS, COVERED TEA POT, SUGAR BOWL, AND CREAMER—Floral decoration. Each in display box. Size 9¾x11½ inches 9.60

T17863—THREE LARGE CUPS AND SAUCERS, COVERED TEA POT, SUGAR AND CREAMER—Pansy floral design with gold decorations. Each in display box ..... Each 1.00

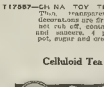
T17869—CHINA TOY TEA SET—Containing 6 cups & cups and saucers, tea pot, sugar and cream set decorated in colors with gold lines in display box. Size 10½x14 inches 1.50

T17854—SIX LARGE CUPS AND SAUCERS, TWO CAKE PLATES, COVERED TEA POT, SUGAR BOWL AND CREAM PITCHER—Floral decorations with light tinted border and gold lines. Each in display box. Size, 12¾ 8¾ inches 1 50

T17856—SIX LARGE CUPS AND SAUCERS, LARGE LOOP HEAD TEA KETTLE, SUGAR BOWL AND CREAM PITCHER—Hand painted floral designs. Floral designs with blue border. Each in display box. Size, 11¾12¾ 2 25

T17857—CHINA TOY TEA SET—Pink transparent china, decorations are fired and will not rub off, consists of cups and saucers, 6 plates, tea pot, sugar and creamer 3.50

Celluloid Tea Sets



T18014—PINK AND BLUE—Consist ing of four cups and saucers, four plates, coffee pot and cover. Made of extra heavy celluloid. Each in display box. Sizes 9x10 inches. Each 1.25

Girlie's Nickel Plated Cooking Sets

T17872—COOKING SET—Consisting of: stew pan, round tray, wafer, waffle, saucepan, pan, preserving kettle. Highly nickel plated. Each set packed in box, 24x9½ ..... Per doz. 6.25

T17573 FIVE O'CLOCK TEA SET Consisting of eight-inch round tray, tea pot, tea kettle, sugar and cream er. Highly nickel plated. Each set packed in box..... Per doz. 7.85

T17574 FIVE-PIECE AFTERNOON TEA SET—Consisting of eight-inch tray, French tea pot, chafing dish, sugar and creamer. Highly nickel plated. Each set in box Per doz. 10 15

Child's Aluminum Sets

T17631

T17580—THREE-PIECE—Consisting of cup, saucer and plate, satin finished and furnished in fancy box, decorated..... Per doz. 2.34

T17581—SIX PIECE Consisting of cup, saucer, plate, knife, fork and spoon. Beautifully finished. Each set in fancy decorated box 5.60

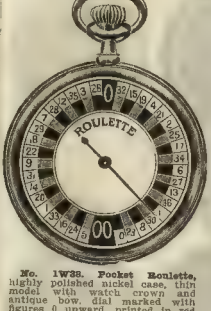
T17582—THREE-PIECE—Consisting of knife, fork and spoon. Beautifully embossed and finished. Each set in fancy decorated box..... Per doz. 2.04

T17583—ELEVEN-PIECE—Consisting of two cups and saucers, two plates, sugar bowl and creamer (no pot) and two spoons. Satin finished. Each set in fancy display box Per doz. 9.36

Special Items That Are Very Popular

Novel, Unique and Appealing. Our Prices are the Lowest. Excellent for Premiums and Special Purposes.

Pocket Roulette



No. 1W38. Pocket Roulette, highly polished nickel case, thin model with watch crown and antique bow, dial marked with figures 0 upward, printed in red and black. By turning the crown the second hand will spin very rapidly and come to a stop of its own accord. Each... ..... **1.50**

No. 1W39. Same as above, in gun metal. Each... . .. **1.50**

Pocket Roulette

No. 1W40. Pocket Roulette. made like a watch, polished nickel plated case, thin model, full roulette figures in proper colors. Center fitted with individual slots, which revolve very rapidly by turning the crown. Small ball finally drops into slot, showing the winner. Stops of its own accord. Extremely popular. Each... **1.50**

Automatic Counter

No. 1W35. Automatic Counter. Registers from 1 to 9999. Well constructed and is the simplest, most accurate and most durable counter on the market. All that is necessary is to press the stem. In highly polished nickel case and has the resemblance of a gentleman's small size watch. Easily set back to zero by removing back and turning hand sets Complete instructions with each counter.

Each **1.65**

Pearl Watch
Novel and Attractive

No. 2W9. Men's Fine White Mother of Pearl Watch. Very pretty new flat model, antique bow and crown, snap front, snap back, fancy gold hands, white or gold, dial with neat color tinting in the figure zone; good jeweled Swiss nickel movement; a very attractive and genteel open face watch. Decidedly unique and a watch that appeals strongly to every person who sees it. should be a seller of the first type with any dealer. Each..... **4.00**

Pedometre

No. 1W36. 100 Mile Pedometer, highly polished nickel case, resembles a gentleman's small size watch, movement is made similar to a watch with pendulum which swings with each stride and the distance walked is accurately recorded on the dial. Can be set backward or forward by simply removing back of case and turning set screw. Each..... **1.40**

A Special Bargain
Chatelaine Watch

No. 2W55. Boys' or Girls' Nickel Watch. 15 line white enamel dial, gold hands, antique bow, nickel engraved case, movement, cylinder escapement, stem wind and push-in set. A popular low price watch for premium purposes.

Each **1.35**

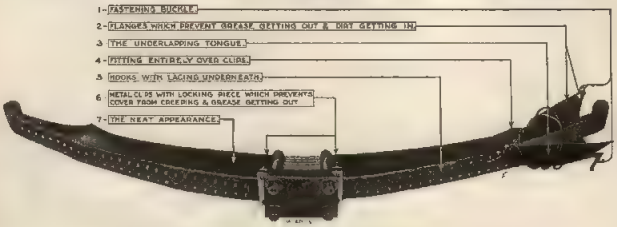
Rowe 3 Ton High-Speed Chassis, Equipped With 30 Passenger Bus Body

Complete line of passenger buses—1½, 2 and 3 ton capacity.
Bodies designed to carry 18 to 30 passengers.
Also complete line of commercial trucks—¾ to 5 ton capacity.
Valuable territory open to dealers.
Write for catalog.

Rowe Motor Mfg. Co.

LANCASTER, PA.

Stops Springs Breaking


1-PASSENING BUCKLE
2-FLANGES WHICH PREVENT GREASE GETTING OUT & DIRT GETTING IN
3-THE UNDERLAPPING TONGUE
4-FITTING ENTIRELY OVER CLIPS
5-HOOKS WITH LACING UNDERNEATH
6-METAL CLIPS WITH LOCKING PIECE WHICH PREVENTS COVER FROM CREEPING & GREASE GETTING OUT
7-THE NEAT APPEARANCE

Anderson Covers Are Protected by Patents and Infringers Will be Prosecuted

Users tell us that ANDERSON SPRING LUBRICATORS are practical insurance against spring breakage. Proper lubrication, permanently provided by Anderson covers, keeps springs working smoothly, easily and noiselessly. When the sudden strain comes, springs give instant response. Leaves cannot stick together—there is no breakage. Anderson covers are strong, durable, waterproof Made of real or artificial leather, in sizes for all cars. Coat the inside of the cover with grease; lace it on the spring; forget spring troubles.

Send for Circular and Prices **Territory Open for Responsible Agents**

ANDERSON SPRING LUBRICATOR CO., Inc.

"Spats for Springs"

41 Lansdowne Street **Boston, Mass.**

Even Weight Royal

EXACT-WEIGHT-AS-ORDERED is a standardized feature of Royal Cotton Waste. Each individual bale receives three distinct weighings: First, before entering the baling press; second, after baling; third, prior to shipment. The slightest deviation from specified weight is therefore invariably detected and corrected.

Ask your Jobber or us for the Royal Sampling Catalogue and the booklet "Clean Clean Thru."

SMALL USERS SHOULD ASK TO BE SHOWN THE HANDY NEW ROYAL AUTOPAK BALE.

ROYAL MANUFACTURING Co

General Offices & Mills
Rahway, N. J.

New York Chicago
Baltimore

THE GUARANTEE: Uniform Quality 6% Tare (Wrappings) Exact Weight

Even Weight Royal

EXACT-WEIGHT-AS-ORDERED is a standardized feature of Royal Cotton Waste. Each individual bale receives three distinct weighings: First, before entering the baling press; second, after baling; third, prior to shipment. The slightest deviation from specified weight is therefore invariably detected and corrected.

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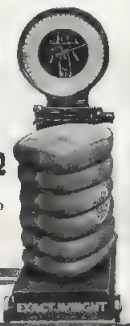

Columbia Recording Thermometers

Respond instantly to slightest temperature changes and guaranteed accurate.

Clock movement is ruggedly built, for long service. Will not corrode.

Time Punch makes a hole in disc at exact time for each pressure, thus acting as a time check.

Removable arm makes renewal of chart easy and eliminates possibility of straining arm and affecting accuracy of records.

Removable glass not spilling and noncorroding pen figures legibly on records. Has a light chart less wide area than usual, giving a more readable record.

Furnish in flush, panel and other styles. Write for Catalog No. N 22.

The Schaefer & Budenberg MFG. CO.

Brooklyn, N. Y.

ATLANTA
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Also—Industrial Thermometers, Indicating Gauges, Gauge Testers, Tachometers, Pyrometers, Recorders, Counters, Etc.

S & B Gauges

A complete line for pressure, vacuum and draft.

Have extra heavy, long-wearing, noncorrosive movement.

Dial is hand calibrated, insuring accuracy. White enameled matt finish eliminates glare and makes reading easy.

Write for Catalog No. N-22.

Brooklyn, N. Y.

The Schaefer & Budenberg MFG. CO.

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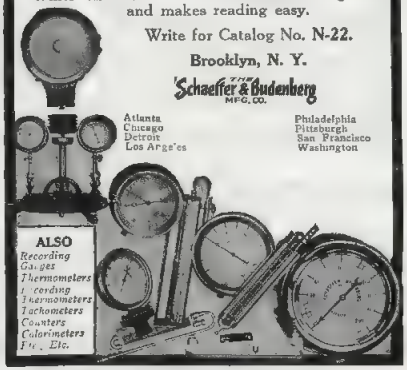

ALSO
Recording Gauges
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WATERPROOF PAULINS
AUTOMATIC AWNINGS
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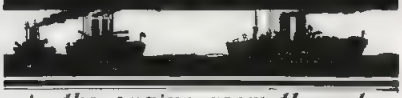


in the engine room through the use of **STRONG'S IRONCLAD HIGH-PRESSURE GAUGE GLASSES** *means economy through the avoidance of dangerous explosions of gauge glasses*

THE TOUGHEST EVER

STRONG MACHINERY & SUPPLY CO.

292-294 Church St. NEW YORK

500,000 THERE'S A REASON *Sold by us in one year*

Doll Heads and Dolls

DOLL HEADS

Metal Doll Heads

N18384-84 N18384-87

Painted Hair and Painted Eyes

Per doz.

N18383—METAL DOLL HEAD—Made of sheet brass, unique finish; painted eyes and hair well modeled features. Height 2 inches to at nearly one 3/4 inches by 2 c. Per doz. Each in box.. 0 60

Painted Hair and Moving Eyes

Per doz.

N18284—Height 5 inches, bust measure 2 1/2x3 inches. Each in box.. 0 35

Mohair Wig and Moving Eyes

Per doz.

N18285—Height 4 1/2 inches, size of bust 2 3/4x1 1/2 inches. Each in box.. 0 60

N18286—Height 5 1/2 inches, size of bust 3x2 1/4 inches. Each in box.. 1 00

N18287—Height 6 inches, size of bust, 3 1/2x2 1/2 inches. Each in box.. 1 25

Bisque Doll Heads

N18282-46

B SQUE DOLL HEAD—With real human hair, ringlet wig, moving eyes and ca- bodies.

Per doz.

N18282 Height 4 inches size of bust 1 3/4x2 inches. Each in box.. 10.00

Each

N18283—Height 4 1/2 inches size of bust 2x2 1/2 inches. Each in box.. 1 25

N18284—Height 5 inches, size of bust 2 1/2x2 3/4 inches. Each in box.. 1.50

N18285 Height 5 1/2 inches, size of bust 3x3 inches. Each in box.. 1.80

N18286—Height 6 1/2 inches, size of bust 4 1/2x3 inches. Each in box.. 2 40

Celluloid Doll Heads

N18341-43 N18344

Celluloid Doll Heads, Painted Hair and Eyes

Per doz.

N18341—3 1/2 inches high; shoulder 1 1/2 inches wide. Packed 6 dozen in a box.. 2 50

N18342—4 inches high; shoulder 1 3/4 inches wide. Packed 3 in a box.. 4 50

N18343—4 1/2 inches high; shoulder 1 3/4 inches wide. Packed 1 in a box.. 9.00

Mohair Wig and Painted Eyes

CELLULOID DOLL HEADS—With wigs of beautiful fine wavy hair, colored (blonde and brunette), which adds a great deal of beauty to the doll's face. Made with perfect shoulder plate, with holes for attaching and detaching arms with the cloth doll bodies.

Per doz.

N18344—5 1/4 inches high, shoulder plate 3 1/2 inches wide. 1 in a box.. 1 40

RUBBER DOLLS

N18347 N18442

Per doz.

N18438—ASSORTED GRAY RUBBER DOLLS—6 styles in a box; average length 3 1/2 inches. 1 dozen in a box, not broken.. 75

N18436—SIX ASSORTED GRAY RUBBER TOYS—With rubber floating attached; average length 3 inches. 1 dozen in a box, not broken.. .85

N18437—ASSORTED GRAY RUBBER DOLL—Height 4 inches. 1 dozen in box.. .88

N18438—Height 4 1/2 inches. 1 dozen in box.. 1.10

N18439—GRAY RUBBER BABY IN TUB—1 dozen in a box.. 1.40

N18440—GRAY RUBBER CAT IN BASKET. 1 dozen in a box.. 1.40

N18441—GRAY RUBBER CHILD IN SHOE—1 dozen in a box, not broken.. 1.40

N18442—ASSORTED BOY DOLLS—Height 6 1/2 inches.. 1.92

N18443—GRAY RUBBER DOLL—With knit suit. height 6 1/2 inches. 1 dozen in box.. 2.20

N18444—ASSORTED RUBBER DOLLS—6 styles, including girl and eleven dolls, average length 4 inches. 1 dozen in a box, not broken.. 2.40

Rubber Animals

Per doz.

N18450—ASSORTED GRAY RUBBER ANIMALS—Average length 3 1/2 inches. 1 dozen in a box, not broken.. .92

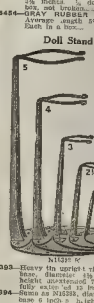
N18451—ASSORTMENT OF 8 STYLES GRAY RUBBER ANIMALS—Average length 4 inches. 1 dozen in a box, not broken.. 1.50

N18452—ASSORTMENT OF 8 STYLES GRAY RUBBER ANIMALS—Average length 5 inches. 1 dozen in a box, not broken.. 2.00

N18453—ASSORTMENT OF 8 STYLES GRAY RUBBER ANIMALS—Average length 5 1/2 inches. 1 dozen in a box, not broken.. 2.60

N18454—GRAY RUBBER HORSE—Average length 5 1/2 inches. Each in a box.. 4 75

Doll Stand



N18297 Per set

N18393—Heavy tin spider; riveted to base, diameter 6 1/2 inches, height ascertained 7 inches, fully extended 14 inches.. 4 50

N18394—Same as N18393, diameter of base 8 inches, height unextended 9 inches, fully extended 14 inches.. 6.00

Each

N18395—Brass gold iron upright riveted to steel iron base, diameter 8 inches height, unextended 14 inches, fully extended 24 inches.. 1 45

N18446 N18447

N18445—ASSORTED BOY DOLLS—Height 6 1/2 inches.. 2.40

N18446—RUBBER DOLL—Height 6 inches.. 2.40

N18447—JUTTA BROWN RUBBER DOLL. Height, 6 inches.. 2.40

Per doz.

N18448

N18448—RUBBER DOLL. With knit suit and cap, height 8 1/2 inches.. 4.36

N18449—Height 7 1/2 inches, 1/2 dozen in box.. 4.75

Rubber Rattles

Per doz.

N18455—GRAY RUBBER RATTLE—With large teething ring on one end and small metal bell inserted in rubber on other end, length 3 1/4 inches. 1 dozen in a box, not broken.. .48

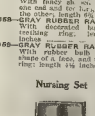
N18456—GRAY RUBBER BULB RATTLE—With rubber teething ring; length 4 inches. 1 dozen in a box, not broken.. .57

N18457—GRAY RUBBER RATTLE—With fancy ch ion both on one end and for hanging ring on the other; length 6 inches.. .99

N18458—GRAY RUBBER RATTLE—With decorated bulb and teething ring; length 5 inches.. 1 20

N18459—GRAY RUBBER RATTLE—With rubber bell in the shape of a face and teething ring; length 5 1/2 inches.. 1 30

Nursing Set



N18384

N18384—DOLL'S NURSING SET—Nursing bottle with rubber nipple; each in box, size 1x3/4 inches.. .40

Per doz.

Doll Sets

N18389

N18387—DOLL JEWELRY—Set served on neat white card, consists of the following articles: pair of plated slipper buckles, fancy collar and fan straps on ribbon and two shell hair pins set with jewels, each in box distinguished with Mother Goose characters.. 6 00

N18388—DOLL JEWELRY—Set served on neat white card, consists of the following articles: latest style bead necklace, pair of plated slipper buckles, fancy brooch, pair of dress pins, wrist watch on ribbon band and braid ribbon, each article with ribbon sewed in center; each in box lithographed with Mother Goose characters.. 1 00

Per doz.

N18389—DOLL JEWELRY—Set served on neat white card, consists of the following articles: gold bead necklace, pair of plated slipper buckles, fancy brooch, pair of dress pins, jeweled bracelet, braid trimmed hair bandeau with ribbon rosette in center and two pair gold pendalaces with gold clasps and novelty pendant; each in box lithographed with Mother Goose characters.. 1.25

Per set

N18391—ASSORTMENT OF DOLL JEWELRY—Box containing 2 dozen assorted, gilded bead necklace and jacket, watch, bracelet, brooch, bandeau handkerchiefs, each set on a card; 6 dozen in box, not broken.. 8 00

Dolls' Toilet Sets

N18395

N18395—TWO-PIECE DOLL SET—Each comb, 2 1/2 inches long, dark brush, 3 1/2x1, dotted in a neatly decorated box.. 1 95

Per doz.

Each

N18396—DOLL'S TOILET SET—White ivory with hand-painted floral design in two colors, consists of mirror, brush, comb, soap box, hair receiver and puff box; each in fancy telescope box.. 1 00

Early Orders for Holiday Goods insure the greatest variety

Send in your orders while our stock is complete

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Rattles and Assortments

Metal Rattles

T17692—METAL BELL RATTLES—Three balls attached to an enameled board strap knob; enameled wood handle. 1 dozen in box, not broken ..... Per doz. 1 02

Celluloid Rattles

T17680—RATTLE ASSORTMENT—Corrugated design. Packed 1 dozen to fancy display box, not broken ..... Per doz. .78

T17681—RATTLE ASSORTMENT—Hexagonal ball shaped rattles. Choice colors, with to match. 1 dozen assorted in carton, not broken ..... .05

T17682—INFANT RATTLES—Assorted ball and drum shapes, assorted colors. 1 dozen in carton, not broken ..... .96

T17685—KIDDY RATTLES—A varied assortment of bells, twisted handles, teething rings, etc., assorted colors. 5 dozen assorted. Price each, complete box ..... Per doz. 1 00

T17683—INFANT RATTLES—Assorted ball and drum shapes in variegated colors, with teething ring handle. 1 dozen to carton, not broken ..... Per doz. .96

T17686—ASSORTMENT INFANT RATTLES—Choice color, teething ring handle. 1 dozen to carton, not broken ..... Per doz. 1 23

T17684—RATTLE ASSORTMENT—Unique shapes with twisted handles, assorted colors. 1 dozen in box, not broken ..... Per doz. 1 23

T17655 RATTLE ASSORTMENT—With twisted handles, assorted shapes, Choice color. 1 dozen in box, not broken.. 1.23

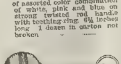
T17657 RATTLE ASSORTMENT—Metallied color effect with twisted rod handles, assorted shapes. 1 dozen assorted styles to box, not broken.... 1.23

T17658—RATTLE ASSORTMENT—Metallied color effect with white teething ring handles, assorted shapes. 1 dozen in box, not broken. ..... Per doz. 1 23

T17660—KIDDY WHISTLING TOY RATTLES—Egg and ball shapes on teething ring; has whistle attachment. Choice color; packed one-half dozen on fancy display card ..... Per doz. 2.20

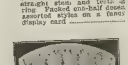
T17663—IRIS BABY RATTLE ASSORTMENT—Assorted ball top rattles of mottled bronze color effect, link covers on twisted rod handles with teething ring attached. Very attractive. 6¼ inches long. Packed 1 dozen on a display card ..... Per doz. 2 20

T17661—CELLULOID RATTLE ASSORTMENT—Consisting of ball and hexagon shaped rattles of assorted color combinations of white, pink and blue, on strong twisted wire handle with teething ring. Handle long. 1 dozen in carton not broken ..... Per doz. 2 20



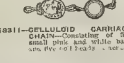
T17662—PRETTY NEW IRIDESCENT COLORS, CELLULOID RATTLES—Made in drum and ball shapes, mid terms with stem handle and teething ring ends. Packed one-half dozen assorted on fancy display stand ..... Per doz. 2 20

T17664—RATTLE ASSORTMENT—Ball drum and cane rattle terns in Celtic colors, on straight stem and metal teething ring. Packed one-half dozen assorted styles on a fancy display card ..... Per doz. 2.20



T17659—KIDDY WHISTLING TOY RATTLES — Consisting of ball, drum and egg shaped rattle with whistle stem and teething ring ends. Packed one-half dozen assorted styles and colors on fancy display card ..... Per doz. 2 20

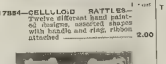
T18311—CELLULOID CARRIAGE CHAIN—Consisting of five small pink and white ball rattles. Per doz. 4.00



T18312—CELLULOID CARRIAGE CHAIN—Consisting of five small blue and white ball and five orange and white... Per doz.

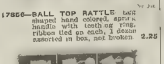
Celluloid Rattles

T17654—CELLULOID RATTLES—Twelve different hand painted designs, assorted colors with handle and ring. Ribbon attached ..... Per doz. 2.00

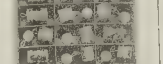


T17656—BALL TOP RATTLE Ball shaped hand colored, sprue handle with teething ring, ribbon tied on each. 1 dozen assorted in box, not broken ..... Per doz. 2.25

T17657—CELLULOID RATTLE—Beautiful hand colored assorted ball top, stem handle with teething ring, ribbon attached; ½ dozen in box, not broken ..... Per doz. 4.25

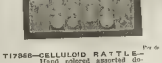


T17658—CELLULOID RATTLE—Hard colored assorted designs and colors, consisting of sprue, rattle and teething ring. Packed one-half dozen in box ..... Per doz. 4.50



T17652—CELL-LOID CARRIAGE TOY RATTLE—Beautifully decorated, designs in hand coloring; twelve different shapes and designs on ribbon chain; box holds ½ to 3 dozen. Price each, per dozen ..... Per doz. 2 23

T17653—Same as above, larger size and more varied designs, one dozen in box, not broken ..... Per doz. 4 23

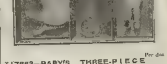


T17650—CARRIAGE TOY RATTLES—Jack and doll, 2½-inch ball with tinted doll, blue and white 2¾-inch ball with white wash attachment, ribbon tied on each, ½ dozen in box, not broken ..... Per doz. 4.50

T17651—CARRIAGE TOY RATTLE ASSORTMENT—Beautifully colored in pink and white, blue and white, very attractive for baby buggy. ½ dozen in box, not broken..... Per doz. 7 85

T17652—BABY'S THREE-PIECE PLAY SET—Consisting of barrel shaped twisted handled rattle, jointed doll and sheep, ribbon tied on each ..... Per doz. 3 65

T17653—BABY'S FOUR-PIECE PLAY SET — Beautifully colored, consisting of barrel shaped twisted handled rattle, sheep, 2½ inch ball and jointed doll each tied with ribbon ..... Each 1 00



T17654—BABY'S FIVE-PIECE PLAY SET Beautifully colored with juvenile designs, consisting of barrel shaped, twisted handled rattle, swan, jointed doll and two colored three-inch balls, ribbon tied on each, each in carton ..... Each 1 50

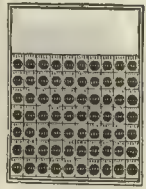
Celluloid Balls

T17683—CELLULOID BALL—Colored white, pink or blue, diameter 2 inches. 1 dozen to box, not broken ..... Per doz. .72

T17684—Same as T17683 diameter 2½ inches. 1 dozen to box, not broken ..... Per doz. 1.15

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Salesboards and Gum Machines

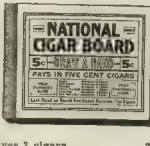


Push Cards with Seal

No. N1170. Push Cards Seal. Blank Headings, made of strong, stiff, heavy cardboard, and will stand the abuse that they are subject to. Plenty of room below the word PUSH for customer to write his name.

These cards are packed 100 in bundle. On all orders for less than 100, the each price will be charged.

	Price Per 100	Price Each
8 Hole	2.60	.02
10 Hole	2.65	.03
12 Hole	2.70	.04
15 Hole	3.40	.04
20 Hole	3.85	.05
25 Hole	4.25	.05
30 Hole	4.60	.06
35 Hole	4.80	.06
50 Hole	6.45	.07
60 Hole	6.80	.08
75 Hole	8.75	.10
100 Hole	8.90	.10



No. N1161. National Cigar Board. In book form; size of book closed 14¼x11 inches. Takes in $15.00 and pays out 196 cigars, divided as follows

	Cigars
1 Four-of-a-kind receives 16 cigars	16
3 Full houses, each receives 10 cigars	30
6 Straights, each receives 8 cigars	48
9 3-of-a-kind, each receives 4 cigars	36
10 Two pairs, each receives 2 cigars	20
26 One pair, jacks or better, 1 cigar	26
Last hand in book receives	10
	196
Each	.42

No. N1178. Lucky Guy Seal Card. Large size, 255 pulls. Pays out $10.20 in trade. Takes in $12.75. Each ..... .26

No. N1179. American Playing Card Folder. Size 18x21½ inches. 300 pulls. Pays out 215 cigars. Takes in $15. Each ..... .30

No. N1177. Base Ball Cigar Card. Contains 300 pulls. Takes in $15.00, pays out $10.55, divided as follows:

	Cigars
73 Bases on balls, each receives 1 cigar	73
13 One-base hits, each receives 2 cigars	26
6 Stolen bases, each receives 4 cigars	24
4 Two-base hits, each receives 8 cigars	32
3 Third base, each receives 10 cigars	30
1 Home run, receives 16 cigars	16
Each	.36

No. N1175. Collar Button Boards, neat and substantial, gilt collar buttons with numbers and serial numbers attached. May be used same as any other salesboard.

200 Buttons. Each	1.15
400 Buttons. Each	2.45
600 Buttons. Each	3.30

MIDGET CIGAR BOARDS

Midget Cigar Boards. The best in the market. Made of pulp board, light in weight, but substantial and durable. Size of board, 6⅞x5 inches. Made in two styles, regular and last punch feature.

No. N1193. Regular Style, contains 289 poker hands, pays out 210 cigars as follows

98 Hands 1 pair (any kind), pays 1 cigar each	98
12 Hands 2 pair, pays 2 cigars each	26
4 Hands 3 of a kind, 4 cigars each	16
3 Hands straights, pays 8 cigars each	24
1 Hand full house, pays 10 cigars each	10
1 Hand four aces, pays 16 cigars each	16
168 Other hands	
Last punch, 20 cigars	
289 Hands to board	Number of cigars 190
Each	.30

The "Sanichu" Gum Machine

FOR TRADE BOOSTERS

Every machine contains 1,200 balls of gum numbered consecutively from 1 to 1,200; no duplicate numbers. Is perfectly sanitary, no dirt or dust, always clean, keeps gum sweet and refreshing. Large glass globe, base and top of metal, handsomely decorated. Every ball of gum wrapped in tin foil, which preserves the flavor; every ball has a sealed number. Over 150 balls. Pays out premium values from 25c to $5.

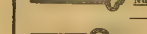
No. N1158. Nickel Machine, with 1,200 balls of gum. Each complete 30.00

No. N1159. Dime Machine, with 1,200 balls of gum. Each complete 30.00

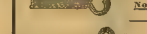
No. N1157. Extra Gum. 1,200 balls 12.00

KEY BLANKS.

Cuts One-third Actual Size.
BLANKS FOR NIGHT LATCHES.



Per Dozen
No. 260—Polished Steel $0.62



Per Dozen
No. 261 Polished Steel $0.62

Per Dozen
No. 2492A—Flat Steel, Polished; For Rim Night Latches Nos. 15, 9, 20 and 170 .....$0.62

Six Dozen in a Cardboard Box; Weight per Dozen about ¾ lb.

Per Dozen
No. 320—BLANK; Mortise. NICKEL PLATED, FLAT STEEL; FOR STORE Door LOCKS; Length 2⅝ in....$0.62

Three Dozen in a Cardboard Box; Weight per Box about ¾ lb

FLAT STEEL, POLISHED; BLANKS; FOR CUPBOARD, DRAWER AND CHEST LOCKS.

Per Dozen
No. 2543B—Length over all 2⅛ in....$0.60

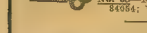
Per Dozen
No. 2544A—Length over all 2⅝ in.$0.60

Per Dozen
No. 2730A—Length over all 2⅝ in.$0.60

Six Dozen in a Cardboard Box; Weight per Dozen about ¼ lb.

PADLOCK KEYS.

Cuts One-third Actual Size.
Yale Padlock Key Blanks.
Steel, Nickel Plated, for Yale Standard Padlocks.
CORRUGATED.



Per Dozen
No. 68—For Yale Padlocks Nos. 3464 and 34064; Weight per dozen about ¾ lb.$1.82

FLAT.

Per Dozens
No. 72—For Nos. 863, 863, 3053 and any other 2 and 2¾ in. Yale Padlocks; Weight per dozen about ½ lb.....$0.62

Six Dozen in a Cardboard Box.

MALLEABLE IRON, DOUBLE BITTED; DRILLED AND POLISHED.

Per Dozen
No. 406—BLANK, For Six Lever Padlocks Nos. 4010¼, 4010¼L, 4010¼C and 4010¼G; Weight per dozen about ¼ lb.....$1.82

Six Dozen in a Cardboard Box.

BAG KEYS.

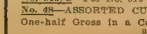
Cuts One-third Actual Size.

Per Gross
No. 52—ASSORTED CUT $0.20

One-half Gross in a Cardboard Box.
Weight per Gross about 3 lbs.

CABINET KEYS.

Cuts One-third Actual Size.
MALLEABLE IRON, DRILLED AND POLISHED.



No. 72½. No. 510/C

Per Gross
No. 72½ For No. 72 Locks.....$5.30
No. 510/C—For No. 510 Locks.....7.10
No. 48—ASSORTED CUT $2.20

One-half Gross in a Cardboard Box; Weight per Gross about 4 lbs

‡Goods marked thus (‡) are not carried in stock and can only be furnished by shipment direct from factory.

TILL KEYS.

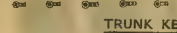
Cuts One-third Actual Size.
MALLEABLE IRON, DRILLED AND POLISHED.

Per Gross
No. 49—TILL KEYS, ASSORTED, Cut; Weight per gross about 2 lbs.....$10.20

One-half Gross in a Cardboard Box.

TRUNK KEYS.

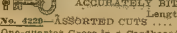
Cuts One-third Actual Size.



MALLEABLE IRON, DRILLED AND POLISHED
Assorted Lengths 1⅜ to 1⅞ in.
Per Gross, $11.20
No. 42—ASSORTED, Cut and Blanks; Weight per gross about 2 lbs.....
One-half Gross in a Cardboard Box.

MALLEABLE IRON.
Length 1¾ in.
No. 178—CUT .....Per Gross, $11.20
One-half Gross in a Cardboard Box; Weight per Gross about 2 lbs

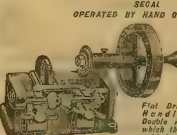
STEEL, NICKEL PLATED, POLISHED, ACCURATELY BITTED AND DRILLED.
Length 1½ in.
No. 4220—ASSORTED CUTS .....Per Gross, $20.40
One-quarter Gross in a Cardboard Box; Weight per Gross about 2 lbs.



Assorted Lengths 1⅜ to 1⅞ in. Per Gross
No. 32—ASSORTMENT of Flat Steel Trunk Keys...$5.10
One-half Gross in a Cardboard Box; Weight per Gross about 1 lb

‡KEY DUPLICATING MACHINES.

SECAL
OPERATED BY HAND OR POWER.

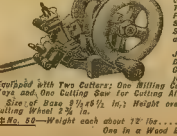


Will Accurately Duplicate any make of Cylinder Keys; is efficient and Quick in Operation; Shoulder Guide which insures the Accurate setting of the Key.

High Grade Cast Iron, Black Japanned Finish; Flat Drive Wheel fitted with Grip Handle; Micrometer Adjustment; Double Acting Vises; Milled Slot in which the movable part of Machine is guided; Hardened Steel File Edge Cutting Wheel.

Size of Base 9½x5½ in.; Height over all 7¼ in.; Diameter of Drive Wheel 3 in.; Diameter of Cutting Wheel ¼ in. Each
‡No. 980—Weight each about 15 lbs.....$70.00
One in a Case with Full Directions for Operating.

RUSSWIN
OPERATED BY HAND OR POWER.



Will accurately Cut duplicates of all Makes of Pin Tumbler Cylinder Keys, All Flat Keys, Double Bit Keys, Solid and Hollow Barrel or Stem Keys, by Changing Cutter and Gauge.

High Grade Cast Iron, Black Japanned Finish. Grooved Drive Wheel for Puller, with Grip Handle; Micrometer Adjustment; Double Acting Vises. Equipped with Two Cutters; One Milling Cutter for Cutting Pin Tumbler Keys and, One Cutting Saw for Cutting All Other Kinds of Keys

Size of Base 9½x5½ in.; Height over all 7¼ in.; Diameter of Cutting Wheel 2⅝ in.
‡No. 60—Weight each about 12 lbs.....Each, $65.00
One in a Wood Box.

CHESAPEAKE
"The Most Rugged Cranes Built" CRANES

Electric Traveling Cranes
Prompt Shipments

Builders and Erectors of all types of
STRUCTURAL STEEL
STEEL LUMBER
Steel Bridges
Steel Buildings
Steel Roof Trusses
Steel Columns
Etc. Etc. Etc.

Always on hand a large stock
BETHLEHEM and STANDARD SHAPES
for immediate shipment
Inquiries Solicited

Chesapeake Iron Works
BALTIMORE, MD.

Champion Engineering Co., The, Kenton, O.
Chesapeake Iron Works, Baltimore, Md.
.....See Advt. Index, Page 7
We manufacture Electric Traveling Cranes up to any capacity. The Chesapeake Crane is the most rugged crane built and is designed along the most approved lines of modern crane construction. The Crane is of the simplest possible construction and all working parts are extremely heavy, thereby assuring maximum efficiency under most adverse operating conditions.
Cleveland Crane & Engineering Co., Wickliffe, Ohio
Detroit Eng'g Works, Detroit, Mich
Detroit Hoist & Machine Co., Detroit, Mich.
Erie Steel Construction Co., Erie, Pa.
Euclid Crane & Hoist Co., Euclid, O.
Granger Co., A. D., 16 Park Row, New York
.....See Advt. Index, Page 7
Lane Mfg. Co., Montpelier Vt
Link Belt Co., Chicago and Philadelphia.
Llewellyn Iron Works, Los Angeles, Cal
Milwaukee Electric Crane & Mfg. Co., Inc., Milwaukee Wis See Advt. Index, Page 7
Morgan Engineering Co., Alliance, O
New Jersey Foundry & Machine Co., 90 West St., New York .See Advt. Index, Page 7
Niles-Bement-Pond Co., New York.
Northern Engineering Works, Detroit, Mich.
Pawling & Harnischfeger Co., Milwaukee, Wis .....See Advt. Index, Page 7
Penn. Bridge Co., Beaver Falls, Pa.
Reading Chain & Block Corp., Reading, Pa.
.....See Advt. Index, Page 7
Reading Engineering Co., Inc., New York.
Scully-Jones & Co., 234 S. Michigan Ave., Chicago.....See Advt. Index, Page 7
High grade cranes. Quick deliveries.
Shepard Electric Crane & Hoist Co., Montour Falls, N. Y.....Page 3
Manufacturers of BALANCED DRIVE HOISTS AND CRANES. Capacities of 500 lbs. to 60,000 lbs.
Shriver & Co T., Harrison, N J
Smith, Whitcomb & Cook Co., Barre Vt.
Toledo Crane Co., The, Bucyrus, O, See Page 7
"Toledo" Cranes as built by The Toledo Crane Company, Bucyrus, Ohio, cover a range of design and construction which adapts them to every class of service. "Toledo" Cranes are to be found in practically every line of industry in the United States, and there is a special type of crane built and supplied for the various or different classes of service. No effort is made to adapt one type of crane to every service, as a crane suitable for machine shop practice or similar work is not suitable for heavy steel mill practice.
Every crane is designed and built so that it is especially adapted to the service which it is to perform. Any standard Crane Motor can be used.

(Continued on following page)

For Every Lifting Service

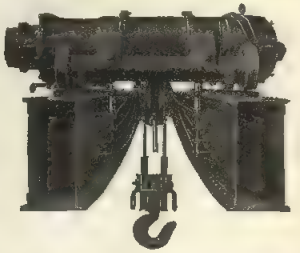
Shepard Electric Cranes

are handling materials in many and varied industries. The selection and extension of this equipment has been largely governed by the evident superiority of the design and the new standard of reliability in service which it has established.

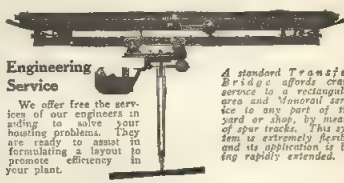
Shepard design recognizes the imperative importance of adequate provision for thorough automatic lubrication, permanent alignment, by means of the Balanced

Standard type Form 6 Shepard Crane.

Drive, complete enclosure and accessibility. These design features have been effectively combined in the case of the hoisting unit by locating gearing and brakes within the rigid cylindrical frame, concentric with drum and motor. Gears are cut from steel blanks. The brakes are of the multiple disc type, and together with the gearing, operate in baths of clean oil, completely protected from dirt.



The sterling qualities of the Shepard Crane Trolley are secured by locating steel gearing and multiple discs within rigid cylindrical frames, completely protected and completely protecting workmen.



Engineering Service

We offer free the services of our engineers in aiding to solve your hoisting problems. They are ready to assist in formulating a layout to promote efficiency in your plant.

A standard Transfer Bridge affords crane service to a rectangular area and Monorail service to any part of the yard or shop, by means of spur tracks. This system is extremely flexible and its application is being rapidly extended.

Shepard Line includes Electric Traveling Cranes in capacities of 1 to 50 tons, Electric Monorail Cranes and Electric Hoists, ¼ to 30 tons, and Electric Cargo Handling Equipment for Docks and Ships.

Shepard Electric Crane & Hoist Co.

New York, Philadelphia, Detroit, Cincinnati, Boston, Baltimore, Cleveland, Pittsburgh, Chicago, San Francisco, Montreal, Melbourne, London, Christiania, Stockholm, Barcelona, Genoa, Paris, Havana

Member Electric Hoist Manufacturers' Association.

SHEPARD
ELECTRIC CRANES & HOISTS

Whiting Electric Traveling Cranes

are reducing handling costs in foundries, iron and steel mills, power houses, forge and machine shops, etc. Our designs are the product of over 35 years of engineering and manufacturing experience. 1 to 250-tons capacity, any lift or span.

Important features: All steel gears with teeth cut from solid; forged steel pinions; no overhung gears; hoist and trolley travel gearing and mechanical brake operate in oil bath; all parts readily accessible for inspection.

Send for catalog and specifications

WHITING CORPORATION

(Formerly Whiting Foundry Equipment Company)

Harvey, Illinois **(Chicago Suburb)**

Representatives in 25 Principal Cities

CRANES OF ALL TYPES—FOUNDRIES EQUIPPED COMPLETE

Safety features as called for by the various State Laws are supplied. Special features called for by the various Safety Specifications are furnished when specified, and construction to meet special conditions or requirements of the Purchaser's Engineering Department are readily embodied in the crane design or construction; or, in other words, "Toledo" Cranes are built to meet the requirements of the Buyer.

Vulcan Iron Works, Inc., San Francisco, Cal.
Whiting Corporation, Harvey, Ill. See Page 7
Up to 250 tons capacity. Practically any span or lift. For railroad and every service. Send for catalog.
Woodward, Wight & Co., Ltd., New Orleans, La.

Cranes, Traveling, Hand, Overhead

Box & Co., Alfred, Philadelphia, Pa.
Brown Hoisting Machinery Co., The, 4403 St. Clair Ave., Cleveland, O ..See Page 7
Designed for durability, easy operation and limited headroom
Browning & Co., Victor R., Cleveland, O.
Champion Engineering Co., The, Kenton, O.
Channon Mfg. Co., James H., Chicago.
Cleveland Crane & Engineering Co., Wickliffe, Ohio.
Conkey & Company, H. D., Mendota, Ill.
Detroit Hoist & Machine Co., Detroit, Mich.
Harrington, Son & Co., Edwin, Philadelphia, Pa.
Llewellyn Iron Works, Los Angeles, Cal.
Morris Bros., Philadelphia, Pa.
Moore, Franklin Co., Winsted, Conn.
New Jersey Foundry & Machine Co., 90 West St., New York.
Niles Bement-Pond Co., New York.
Northern Engineering Works, Detroit, Mich.
Pawling & Harnischfeger Co., Milwaukee, Wis. ..See Advt. Index, Page 7
Reading Chain & Block Corp., Reading, Pa. ..See Advt. Index, Page 7
Richards-Wilcox Mfg. Co., Aurora, Ill.
Scully-Jones & Co., 224 S. Michigan Ave., Chicago. ..See Advt. Index, Page 7
Shriver & Co., T. Harrison, N. J.
Speidel, J. G., Reading, Pa. ..See Page 7
Toledo Crane Co., The, Bucyrus, O See Page 7
Whiting Corporation, Harvey, Ill. See Advt. Index, Page 7
Whiting Corporation, Harvey, Ill..See Page 7
Wright Mfg. Co., Lisbon, O.
Yale & Towne Mfg. Co., The, Stamford, Conn.

Cranes, Traveling, Jib

Alliance Machine Co., Alliance, O.
Brown Hoisting Machinery Co., The, Cleveland, O.
Cleveland Crane & Engineering Co., Wickliffe, Ohio.
Lakeside Bridge & Steel Co., North Milwaukee, Wis.
Link-Belt Co., Chicago and Philadelphia.
Milwaukee Electric Crane & Mfg. Co., Inc., Milwaukee, Wis See Advt. Index, Page 7
Niles-Bement-Pond Co., New York.
Pawling & Harnischfeger Co., 38th & National Aves., Milwaukee, Wis ..... See Advt. Index, Page 7
Reading Chain & Block Corp., Reading, Pa. ..... See Advt. Index, Page 7
Scully-Jones & Co., Chicago.
Shepard Electric Crane & Hoist Co., Montour Falls, N. Y..... .....Page 3

Cranes, Traveling, Pneumatic

Detroit Hoist & Machine Co., Detroit Mich.
Northern Engineering Works, Detroit, Mich.

Cranes, Traveling, Wall

Alliance Mach. Co., Alliance, O.
Champion Engineering Co., The, Kenton, O.
Chesapeake Iron Works, Baltimore, Md. See Advt. Index, Page 7
Chicago Pneumatic Tool Co., 1012 Chicago Pneumatic Bldg., New York, (Pneumatic) ..... See Advt. Index, Page 7
Cleveland Crane & Engineering Co., Wickliffe, Ohio.
Detroit Hoist & Machine Co., Detroit, Mich.
Grainger Co., A. D., New York.
Harrington, Son & Co., Edwin, Philadelphia, Pa.
Milwaukee Electric Crane & Mfg. Co., Inc., Milwaukee, Wis. See Advt. Index, Page 7
New Jersey Foundry & Machine Co., 90 West St., New York.
Niles Bement-Pond Co., New York.
Pawling & Harnischfeger Co., Milwaukee Wis. ..... See Advt. Index, Page 7
Reading Chain & Block Corp., Reading, Pa. ..... See Advt. Index, Page 7
Speidel, J. G., Reading, Pa ... See Page 7
Toledo Crane Co., The, Bucyrus, O. See Page 7

Cranes, Truck

Automatic Transportation Co., The, 2937 Main St., Buffalo, N. Y. . .See Page 7
Bay City Foundry & Mach. Co., Bay City, Mich.
Brown Hoisting Machinery Co., The, Cleveland, O.
Canton Foundry & Machine Co., The, Canton, Ohio.
Kanna Engineering Works, 1760 Elston Ave., Chicago. .See Advt. Index, Page 7
Link-Belt Co., Chicago and Philadelphia
Northern Engineering Works, Detroit, Mich.
Orton & Steinbrenner Co., Chicago.
Transportation Engineering Corp., New York.

Cranes, Warehouse See Cranes, Portable and Stationary, Hand Power

OBEY THAT IMPULSE

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¶ Mention MacRae's Blue Book when writing manufacturers listed herein ∴ ∴ ∴

Short Stem Hat Pins

Six Assorted Pairs on Fancy Display Card

No. 49J4. Gold plated, English finish, chased tops, 6 pair on fancy display card.
Per dozen pairs.... .95

No. 49J5. Gold plated, English finish, 6 assorted patterns on fancy display card
Per dozen pairs. . 1.00

No. 49J20. Platinum plated, will not tarnish, 6 assorted patterns on fancy display card.
Per dozen pairs.... 1.20

No. 49J21. Gold plated, English finish, 6 assorted patterns on fancy display card.
Per dozen pairs.... 1.20

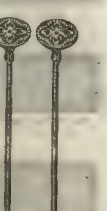
No. 49J22. Gold plated, English finish, 6 assorted patterns on fancy display card.
Per dozen pairs.... 1.20

No. 49J25. Gold plated, English finish, large pearls, Chinese green jade tops.
Per dozen pairs.... 1.80

No. 49J25. Platinum plated, will not tarnish, oxidized finish, 6 assorted on fancy display card.
Per dozen pairs.... 4.75

No. 49J50. Gold filled, English finish, enameled tops, white stone centers, 6 assorted patterns on fancy display card.
Per dozen pairs.... 3.00

No. 49J60. Gold filled, gold tops, hand engraved, English finish.
Per dozen pairs.... 3.50



No. 49J61. Gold filled, gold tops, hand engraved, English finish.
Per dozen pairs.... 3.50

No. 49J70. Platinum plated, will not tarnish, with medium sized iridescent color indestructible French pearl.
Per dozen pairs.... 2.75

No. 49J80. Platinum plated, will not tarnish, large size, iridescent color indestructible French pearl.
Per dozen pairs.... 4.75

For Nearly a Century the Store of Service.

SIMONDS SAWS

No. 205 CROSSCUT SAWS

Fig. 40119A

Length	feet	4	4½	5	5½	6
Price, 14x16 Gauge	each	3.90	4.30	4.80	5.30	5.75

No. 207 CROSSCUT SAWS

Fig. 40119B

Length	feet	4	4½	5	5½	6
Price, 14x16 Gauge	each	3.75	4.20	4.70	5.15	5.55

No. 210 HOLLOW BACK CROSSCUT SAWS

Fig. 40119C

Length	feet	4	4½	5	5½	6
Price	each	1.75	1.95	2.20	2.40	2.55

No. 214 HOLLOW BACK CROSSCUT SAWS

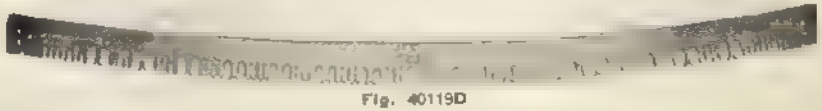


Fig. 40119D

Length	feet	4	4½	5	5½	6
Price	each	2.70	3.05	3.40	3.75	4.05

No. 216 HOLLOW BACK CROSSCUT SAWS

Fig. 40119E

Length	feet	4	4½	5	5½	6
Price	each	1.75	1.95	2.20	2.40	2.55

SIMONDS SAWS

No. 22 CRESCENT GROUND CROSSCUT SAWS

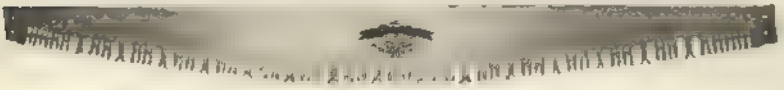


Fig. 40120A

Length	feet	4	4½	5	5½	6
Price	each	4.65	5.30	5.90	6.75	7.90

No. 325 CRESCENT GROUND CROSSCUT SAWS

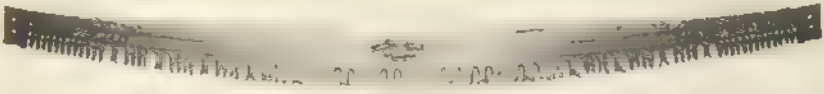


Fig. 40120B

Length	feet	4	4½	5	5½	6
Price	each	4.65	5 30	5 90	6 75	7.90

Crescent Ground Crosscut Saws have five gauges tapering from the middle of the saw to the back, and two gauges taper from the ends of the saw to the back.

No. 231 ONE-MAN CROSSCUT SAWS

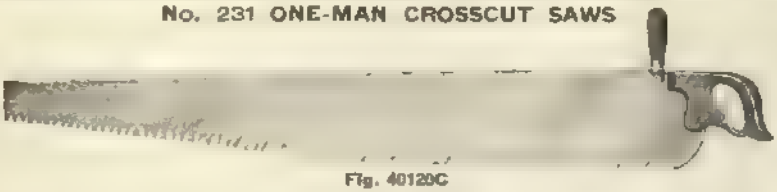


Fig. 40120C

Length	feet	3	3½	4	4½	5
Price	each	2.75	3.15	3 45	3.80	4.20

No. 233 ONE-MAN CROSSCUT SAWS

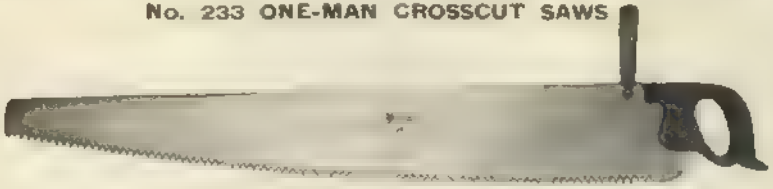


Fig. 40120D

Length	feet	3	3½	4	4½	5
Price	each	2.75	3 15	3 45	3.80	4.20

No. 50 PONTIAC HAND SAWS

Fig. 40120E

Has beech handle and three screws.		Panel			Hand	Rip
Length	inches	20	22	24	26	26
Price	per dozen	13 47	14 67	15 80	16 93	16 93

Write us Your Requirements for Goods Not Listed.

SIMPSON PATENT ADJUSTABLE PARALLEL VISES

1920 REVISION

For Nearly a Century the Store of Service.

QUICK ACTING MACHINISTS BENCH VISES

SWIVEL BASE

Fig. 15837A

Nos. 12, 13, 14 and 15, will be furnished with smooth jaws when so ordered, at no extra cost

Nos 11 and 16 have checked jaws.

No.	Width Jaws Inches	Jaws Open Inches	Weight Pounds	Price Each
11	2½	2¾	9½	10 00
12	3	3½	17½	13 00
13	3½	4	28	15 00
14	4	5	44	17 00
15	4½	5¾	59	20 00
16	5	6¼	78	30.00

STATIONARY BASE

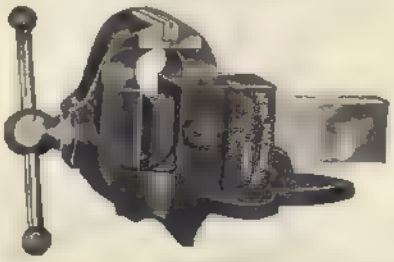


Fig. 15837B

No. 27 has smooth-faced, tempered steel jaws

Nos. 29, 30, 31 and 32 will be furnished with smooth jaws when so ordered, at no extra cost

Nos 28 and 33 have checked jaws.

28	2½	2¾	9	8.00
29	3	3½	15½	10.00
30	3½	4	26	11.25
31	4	5	27	12.75
32	4½	5¾	49	15.50
33	5	6½	64	20.00

COACHMAKERS', CARPENTERS, AND PATTERN WORKERS' BENCH VISES

SWIVEL BASE

Fig. 15837C

Furnished with smooth-faced, tempered steel jaws.

The simplicity of construction, in connection with the quick-acting feature, commends these vises to all woodworkers.

No.	Width Jaws Inches	Jaws Open Inches	Weight Pounds	Price Each
42	4	8½	48	20.00
43	4½	10½	68	22.50

STATIONARY BASE

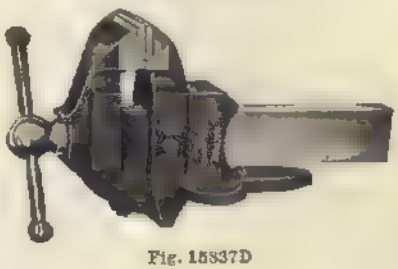


Fig. 15837D

Furnished with smooth-faced, tempered steel jaws

The quick-acting feature of these vises allows the front jaw to be drawn out to the full capacity instantly and a single turn of the handle clamps the work firmly

No.	Width Jaws Inches	Jaw Open Inches	Weight Pounds	Price Each
40	4	8½	41	15.00
41	4½	10½	49	17.50

VISES

PHOENIX ANVIL VISES

Fig. 40898A

This vise is made in a fine and accurate manner by means of special tools and machinery for each operation in its construction. Every part is made to gauge. The bar is correctly ground to size. Hole in back jaw reamed. Jaws and horn ground, polished, and the body neatly japanned. Has steel screw and chilled jaws.

No.	1	1¼	2	2¼	3	4
Width of Jaws ..... inches	1	1¼	1⅝	1¾	2	2½
Jaws Open... "	1¼	1½	1¾	2	2¼	2¾
Weight ... pounds	½	1	1¼	2½	4	9
Price ... per dozen	27 00	28 00	29.00	33 00	43 00	59 00

PHOENIX CLAMP VISES

One important feature in this vise consists in widening the clamp at its junction with the body of the vise and providing the same with two countersunk screw holes, so that the vise can be secured to the bench by screws, in case the clamp is broken. Equipped with fine steel screw and chilled jaws.

Highest grade of materials used in their construction. Highly polished screw, jaws and anvil polished steel screw and shaving lever handle.

Fig. 40898B

No.	1½	1¾	2½	2¾	3½	4½
Width of Jaws ... inches	1	1¼	1⅜	1¾	2	2¼
Jaws Open ... "	1¼	1½	1¾	2	2¼	2¾
Weight ... pounds	½	1	1½	2¾	4½	9½
Price ... per dozen	30.00	31.00	32.00	36 00	46 00	62 00

ATHOL U-BEAM VISES

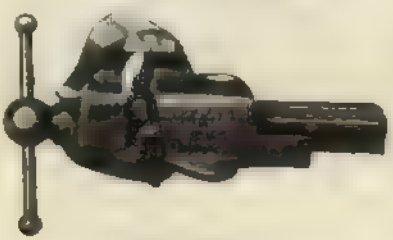


Fig. 40898C

The material and workmanship is of the best. The screw is of the buttress type, the nut of malleable iron, and the jaws of tool steel, carefully checked and hardened. The surface is smooth and neely finished.

Number	112½	113	113½	114
Width of Jaws ... inches	2½	3	3½	4
Jaws Open ... "	3½	4½	5½	6
Weight ... pounds	11	21	30	37
Price ... each	5.00	5.50	7 50	9.25

Write us Your Requirements for Goods Not Listed.

For Nearly a Century the Store of Service.

STANLEY PLANES AND SCRAPERS

SCRAPER PLANES

No. 12 DOUBLE HANDLE

Fig. 15099A

With rosewood handles.

No. 12¼ DOUBLE HANDLE

Fig. 15099B

With rosewood handles.

No. 12½ DOUBLE HANDLE

Fig. 15099C

With rosewood handles and face

No. 112 SINGLE HANDLE

Fig. 15099D

With rosewood handle and knob

No.	Length In Inches	Base Inches	Weight Pounds	Price Each
12	6¼	3	3¾	5.85
12 ¼	6¼	2	2½	4.95
12½	6¼	3	4	7.90
112	9	3	4	5.10

SCRAPERS

No. 80 DOUBLE HANDLE

Fig. 15099E

Iron bottom, 11 inches long.
Price, with 2¾-in. Blade .. .each 1.55

No. 81 DOUBLE HANDLE

Fig. 15099F

Rosewood bottom, 11 inches long.
Price, with 2½-in. Blade.. ...each 2.40

No. 82 SINGLE HANDLE

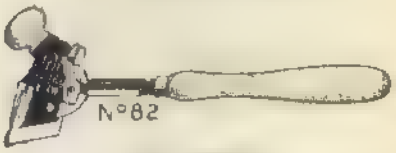


Fig. 15099G

Adjustable, 14½-inches long.
Price, with 3-in. Blade .....each 1.60

No. 70 BOX SCRAPERS

Fig. 15099H

Length 13 inches.
Price, with 2-in. Blade..... each .90

No. 0 HAND SCRAPERS

Fig. 15099J

Size Inches	Weight per Doz. Pounds	Price per Doz.
2½x5	2	4.80
3 x4	2	4.80
3 x5	2½	5.40
3 x6	3	5.40
3½x6	3¾	6.60

STANLEY PLANES

ROUTER PLANES

No. 71, OPEN THROAT

Fig. 15101A

For surfacing the bottom of grooves or other depressions parallel with the general surface of the work. A ¼ and ½-inch

No. 71½, CLOSED THROAT

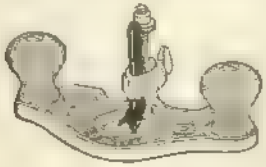


Fig. 15101B

cutter and a patented smoothing cutter are furnished with each plane.

No.	71	71½
Length ..... inches	7½	7½
Price .....each	4.85	3.80

SHOOT BOARD AND PLANE

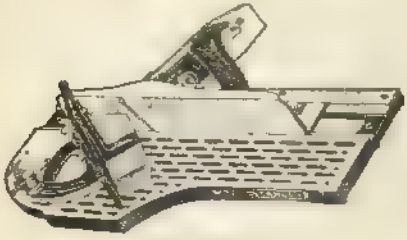


Fig. 15101C

For pattern makers, cabinet makers, printers, picture framers and electrotypers

Boards of ribbed construction and has an adjustable runway

Number		9
Length	inches	12
" Plane		15
Size Cutter		2
Weight	pounds	17
Price, Complete	each	23.45
" Plane only	"	9 40

No. 39 HANDLED IRON DADO PLANES

Fig. 15101D

They will keep true even in the narrowest widths, provided with Skew Cutters, an adjustable depth gauge and two adjustable spurs.

Length Inches	Cutter Inches	Weight Pounds	Price Each
8	¼	1¾	3.85
8	⅜	1¾	4 05
8	½	1¾	4.30
8	⅝	2	4.50
8	¾	2	4.70
8	⅞	2	4.90
8	1	2¼	4.90
8	1	2¼	5.10

In ordering, please be sure to give width of cutter wanted

Nos. 48 AND 49 SWINGING FENCE MATCH PLANES

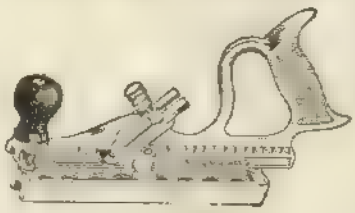


Fig. 15101E

Will cut a tongue on edge of one board to fit a groove in the edge of another so that when put together the surfaces of the boards come true

No. 48

Cuts ⅝ inch groove on boards, ¾ to 1¾ inches; centers on ⅞ inch; weight, each, 3¾ pounds.

Price .....each 6.30

No. 49

Cuts ⅜ inch groove on boards, ½ to ¾ inch; centers on ½ inch; weight, each, 2⅜ pounds.

Price .....each 6.30

Write us Your Requirements for Goods Not Listed.

For Nearly a Century the Store of Service.

STARRETT'S TOOLS

No. 122 VERNIER CALIPERS

Fig. 4423A

These calipers are graduated in either or both English and metric divisions for outside and inside measure, and warranted accurate. Points are placed on the beams and slides for setting dividers to transfer distances, and full directions for using the vernier are sent with each caliper.

Size Inches	Length of Jaw Inches	Width of Jaw Inches	Price Each Without Case	Price Each With Case
4	1⅛	.25	21.00	22.20
6	1⅝	.25	24.00	25.50
9	2⅜	.30	27.60	29.70
12	2⅜	.30	30.00	32.75
24	2⅜	.30	42.00	46.50

Always sent with case, unless otherwise ordered.

No. 234 STANDARD END MEASURING RODS

Fig. 4423B

These rods are made of steel hardened and lapped spherical on the ends with a radius of one-half the length of the rod. The handles are of rubber, two-thirds the length of the rod.

Sizes 2 to 6 inches are ¼ inch in diameter with handles ⅜ inch in diameter. Sizes 6 to 12 inches are ⅜ inch in diameter with handles ⅝ inch in diameter.

Size Inches	Price Each	Size Inches	Price Each	Size Inches	Price Each
*1	1.50	5	2.70	9	3 90
2	1.95	6	3.00	10	4.20
3	2.10	7	3.30	11	4.50
4	2.40	8	3.60	12	4.80

*Disc, all other rods

No. 101 LEVELING INSTRUMENTS

Fig. 4423C

Designed for the use of architects, contractors, surveyors, etc. Its lightness, ample construction, and extremely moderate price, combined with the wide range of work to which it can be applied, make it very desirable for all who have occasion to use such an instrument.

Japanned, with nickel tube.

Price ..... each **15.00**
" with Ground Vial in Level ..... " **16.75**

No. 99 TRANSITS

Fig. 4423D

Designed to meet the demands of contractors, builders, carpenters, farmers and others for a transit and level. This instrument consists of a tripod, to the head of which is connected an upper plate carrying a graduated arc, level and a sight tube. The plain sight tube has no lenses, is brass and in one end is a small eye aperture, in the other the usual cross wires. The telescope has cross lines and is adjustable to distances.

With short legs, the instrument is 8 inches high. With long extension legs which fasten on over the short legs, the height can be from 2 feet 8 inches to 4 feet 8 inches.

Price, No. 99B, with Plain Sight Tube, Long Legs and Plain Level Vial ..... each **20.00**
Price, No. 99F, with Telescope, Long Legs, and Ground Level Vial ..... each **40.00**
Price, Iron Target to go on Pole, Extra ..... each **1.75**
No. 99F sent unless otherwise ordered.

STARRETT'S TOOLS

No. 67 IMPROVED SCRIBERS

Fig. 24261A

All parts are interchangeable. The knurled sleeve is nickeled.

Price, Complete	each	.60
" without Long Point.....	"	.45
" Long Bent Point.....	"	.20
" Straight Point or Short Bent Point	each	.15

Sent complete unless otherwise ordered.

No. 68 ADJUSTABLE SLEEVE SCRIBERS

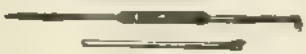


Fig. 24251B

Made in two lengths, 8 and 12 inches. Tool makers will find the small size more desirable for general use, and the larger one for heavier work. For pattern makers a knife scriber, made of a fine grade of steel, is supplied as an auxiliary.

Price, without Knife Point....each		.60
" Knife Point	"	.20
" Scriber Point.	"	.20

The 8-inch, without knife point, sent unless otherwise ordered.

No. 70 POCKET SCRIBERS

Fig. 24251C

Reversible, telescoping into the stock, and is held by a slight turn of chuck.

Number.....	70A	70B
Diameter Handle ...inches	1/4	5/16
Length of Blade .... "	2 3/16	2 7/8
Price .....each	.35	.50

No. 162 PIN VISES

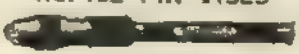


Fig. 24251D

The hole extends through full length of the handle. Nickel plated.

No.	Capacity Inches	Price Each
162A	0 to .040	.70
162B	.030 " .062	.70
162C	.050 " .125	.70
162D	115 " 187	.90
Price, Complete, One of Each.....		2.90

No. 29 SCRATCH GAUGES

Fig. 24251E

For scribing lines parallel to a given surface the scratch gauge is used if the distance is not too great and if the line is to be scribed on a surface nearly at right angles with a given surface. Beam is graduated in 64ths of an inch.

Size Inches	Beam Inches	Price, Each Plain	Graduated
5	11/16	.80	1.20
6	5/8	.90	1.50

No. 429 CARPENTERS' SCRATCH GAUGES

Fig. 24251F

Made from steel, octagon, casehardened. Two bars, 1/2-inch, one plain, 4 inches long and the other 8 inches, graduated in 32nds, with sharp rotating cutters on the ends, slide through the head. Either is adjustable in relation to the other, and they may be used to make two marks at once, or by slipping one bar back into the head out of the way, the other may be used for single lines.

The gauge is nicely finished. One clamping screw holds both bars and locks them firmly.

Price..... .....each 1.80

No. 69 MEASURING BAR CLAMPS

Fig. 24251G

These clamps are 1 inch square inside and are to be used with two wooden bars about 1 by 1/2-inch, of any desired length. The clamps and bars thus combined will be found very convenient by carpenters as adjustable measuring rods, nickel-plated

Price ....per pair .90

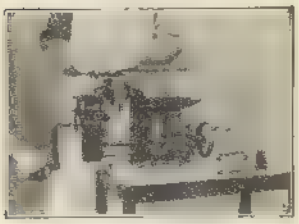
Write us Your Requirements for Goods Not Listed.

For Nearly a Century the Store of Service.

THE STEWART HANDY WORKER

SIX-IN-ONE TOOL

GRINDING WHEEL

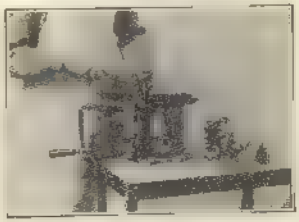


DRILL PRESS

As a vise the jaws open to 4½ inches, and being faced with hardened steel are practically indestructible. The jaw-opening mechanism is operated by main wheel and screw, sliding jaw supported on two heavy cold-rolled steel rods.

Sliding jaw fitted with a three-gear rod rotary spindle, with provision for handle upon each gear, thereby providing three speeds direct 4 to 1 and 16 to 1.

LARGE VISE



CUTTING HARDIE

The upper spindle extends through the jaw and has a socket for holding square shank drills. Two drills are included with the outfit. The anvil is removed and an L-shaped fitting put on to form rest for drill press.

The 5-inch grinding wheel furnished is mounted on an adjustable arbor, on which buffing wheel, scratch wheel, etc., may be used. There is an adjustable rest for the grinding wheel.

A steel grip, highly efficient pipe vise fits between the vise members and is operated by the handwheel.

ANVIL

PIPE VISE

Substantial anvil fitted with a cutting hardie. Comes complete with all fittings supplied. The device as an ornament, useful work mate and invaluable tool for farmers, autoists, mechanics, plumbers, electricians, etc.

Price ..... each **27 00**

PIPE VISES

ARMSTRONG HINGED PIPE VISE
OPEN

Fig. 6794A

CLOSED

Fig. 6794B

ARMSTRONG VISE
WITH JAWS
FOR BRASS PIPE

Fig. 6794C

ARMSTRONG HINGED PIPE VISES

Number	0	1	2	3
Holds Pipe ... inches	⅛ to 2½	⅛ to 2½	½ to 4½	1 to 6
Price, with Steel Jaws ... each	5 00	6 00	12 50	23 50

ARMSTRONG BRASS PIPE JAWS—FOR No. 1 VISE

For O. D. Brass Tubing ... inches	⅝, ¾ or ⅞	1, 1⅛ or 1¼	1⅜, 1½ or 1⅝	1¾, 1⅞ or 2	2⅛, 2¼ or 2⅜
For I. P. Size Brass Tubing ... inches	⅜, ½ or ¾	.....	¼, ½ or 1	.....	1¼, 1½ or 2
Price ... each	75	1 00	1 25	1 50	1 75

WILLIAMS' VULCAN DROP-FORGED CHAIN PIPE VISES

No. 1

Fig. 6794D

No. 2

Fig. 6794E

No. 4

Fig. 6794F

Number	1	2	4
Capacity, Pipe ... inches	⅛ to 2	¼ to 4	¾ to 8
Approximate Weight ... pounds	4	10	30
" Size, Folded ... inches	4x5x6	6x8x8	8x10x12
Price, Complete ... each	3 50	7 50	18 00
" Extra Jaws ... per pair	1 50	3 50	9 00
" " Chains with Screws ... each	1 25	2 40	6 00
" " Screws ... "	40	70	1 25
" " Handles and Nuts ... "	1 10	2 10	3 50
" " Nuts ... "	70	1 35	2 00

Write us Your Requirements for Goods Not Listed.

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE.

STEWART "V-RAY" SEARCHLIGHT.

Here is something entirely new in the way of automobile auxiliary lights. Embodying some of the points of the army searchlight it is in every sense of the word a searchlight, not a mere "spotlight" as are most auxiliary side lights.

It is made with the express purpose of throwing an intense piercing beam of light, making it possible for you to avoid dangers of bad corners, washed-out bridges, fallen trees and other obstacles that are in all country roads. Its usefulness does not stop here, however. It embodies a focusing device that makes it possible to change the beam to a greatly diffused light, making it safe for city driving as well. The focusing device also serves another purpose. It makes possible the use of any globe in the light. No matter how far from the base of the light the element or lighting coil is, the focusing device makes possible the same bright beam

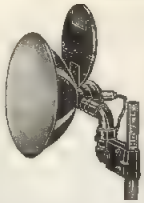
It is swung on a three point suspension bracket, which makes it possible to throw the light any direction instantly.

A 3-inch diminishing mirror in the back gives a very definite and clear rear view

Net Each

NO. 189A—All black $10.00
Weight 3 lbs.

HOWE Searchlight



A Howe Searchlight directs as easily as pointing a finger and "stays put" wherever you turn it. This is accomplished by use of the wonderful Howe Spring-Controlled Bracket—a patented feature. Both joints in the Howe move at the same time. The coil springs that hold the turning joints in a firm, even grip take up loose motion and wear.

One hand controls the powerful penetrating beam, throwing it in any direction instantly. The spotlight may be focused by adjusting a set screw on top of the knob. The Howe never becomes loose or wobbly regardless of jars or vibration—no matter how long it is used

Made entirely from steel stampings—including the bracket and clamps—they are light in weight and strong in construction. Finished in handsomely baked-on black enamel—a finish equal to that of the best cars—and equipped with a 21 C. P., 6-volt National Mazda nitrogen bulb. The reflector is of parabolic design heavily silver plated and gives a true spotlight at all distances

A 4-inch rear-view mirror, with which each Howe is equipped, makes daytime driving safer Packed in individual cartons, properly labeled, with clamp chart and specifications and full instructions.

Net Each

NO. 15—A strong light weight, neat, single shell spotlight complete with mirror and bracket (there is a bracket for every windshield) Face of spotlight 6¼ inches in diameter and 5¼ inches deep $9.00
In lots of 6 to 12.. ..... 8.40
In lots of 12 or more..... 8.00
Weight 2¾ lbs. each

This searchlight is unquestionably the finest ever made. Money cannot buy better material or procure better workmanship.

Everything, except the windshield clamp, is made of brass. Like the No. 15 Howe Searchlight it never becomes loose or wobbly, regardless of jars or vibration on account of its patented feature, the wonderful Howe spring-controlled bracket which is composed of two coil springs that hold the turning joints in a firm, even grip and taking up all loose motion and wear.

This searchlight is equipped with a simple, positive exterior focusing device in the knob with which you can instantly change the light from a piercing searchlight beam to a broad, driving light, or vice versa. The reflector is a true parabolic and is triple silver plated.

The rear-view mirror is of the finest convex, ground optical, heavy plate, and is beautifully and substantially mounted. The switch is of turn-bottom, enclosed, absolutely waterproof type and is conveniently placed. The wire is enclosed in an armored, conduit cable. The lens is a heavy, convex plate and is mounted in the door in a distinctive manner. This, in addition to the detachable band holding the door, makes the lamp absolutely dust and water-proof. The body of the lamp is finished the handsomest you've ever seen. The black enamel is a beautiful, baked-on semi-gloss. The nickel plating incomparable

There is a special Howe clamp for every windshield. When ordering specify the kind of clamp wanted

Net Each

NO. 18—Packed in individual cartons with clamp chart, specifications and full instructions $18.80
In lots of 6 to 12..... 17.60
In lots of 12 or more..... 16.70
F. O. B. Factory.
Weight 4½ lbs.

DO YOU KNOW
THAT
We carry a large stock of **FORD** Parts!

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE.

ELECTRIC SPOT LAMPS

USED AS A TROUBLE LIGHT.

"AUTOREELITE."

A Combination of Three Lamps in One.

Spot Light, Trouble Light and Portable Light, all in one, is what the motorist gets when his car is equipped with lamp. Inside of the ball casing (directly under the lamp proper) is a reel containing 12 feet of electric cord which permits the light to be carried anywhere within a radius of twelve feet of the windshield. The cord reel winds and unwinds like a curtain roller.

Lamp and bracket are in beautiful black enamel—nickel trim—fitted with convex lens, backed by a Mazda C (nitrogen) lamp in a silvered parabolic reflector of carefully determined contour to increase and direct the light rays. Switch conveniently located at the back of the lamp; 3½-inch reducing mirror, giving complete view of the road behind. Lamp 6 inches in diameter with mirror; 20 C. P.

Net Each

NO. M3140—Complete, including three pairs of windshield clamps—round, oval and rectangular (the two not required to be thrown away), and Universal Bracket $14.00
In lots of 6 ..... 13.24
In lots of 12 ..... 12.68
In lots of 96 or more 12.00
Weight 3½ lbs.

S. & M.—THE SPOT-LITE DE LUXE.

This Spot-lite is the pride of the S. & M. line. The intense brilliancy of its concentrated ray cuts far into the darkness—yet the depth of its parabolic reflector insures a generous field for illumination. Richly finished in nickel and black enamel, it harmonizes with the finest car. No more powerful light is made.

Just where the thumb naturally falls is the press-button switch. A push of the thumb throws the light on—or off. The lamp cord is attached. The regulating bracket makes it impossible to break the law, or dazzle another driver. The periscope, a rear-vision mirror, ground and polished to a flawless brilliancy, adds a final touch of distinction to the light—and to the car.

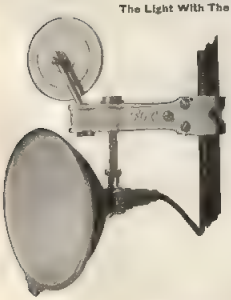
Net Each

NO. 90—Diameter of reflector 7½ in., 6-volt nitrogen bulb, having a light projection of 3,600 feet without periscope—
In lots of 1 to 5 ..... $18.40
In lots of 6 to 11 ..... 18.00
In lots of 12 to 47 ..... 17.20
In lots of 48 or more 15.60
Weight — lbs

"Fox" Spotlight

"SUNLIGHT AT NIGHT."

The Light With The Adjustable Ball Bearings.



Every Fox Spot Light has our Unqualified Guarantee

The Fox Spotlight fulfills all legal requirements. The reflector is practically and scientifically made. It is heavily nickel plated and then silver plated. The result is greater brilliancy and with it a lasting brilliancy.

The "Fox" switch is the simplest yet produced and the most convenient. It is fully protected against moisture and guaranteed against breakage in normal use.

The lens is convex and of best quality double strength glass. It is both weather and dust proof.

The three point suspension clamp is rigid and fits any car.

The mirror is convex diminishing, with nickel plated rim.

Model "A" fits any open car. Model "B" is made for closed cars. It is equipped with a dash switch for operating light from the inside.

Net Each

NO. 1625—Model A, complete with mirror and universal bracket for any open car $15.00
In lots of 6 ..... 14.00
In lots of 12 ..... 13.40
Weight 3½ lbs.

DO YOU KNOW THAT

Our Pagoma Battery is the best dry cell on the market for general ignition, bell ringing, and open circuit work of all kinds?

HORNS.

STEWART-WARNER.

The Sound is Produced by the Rotary Motion of an oversized Steel Diaphragm.

MOTOR DRIVEN.

Constructed for use under Hood of any Make Automobiles.

Lathe Turned Cast Iron Frame, with Bell and Rear Cap; Large Size Commutator and Bushings; Ball Thrust Rear Bearing; Over-sized Steel Diaphragm firmly Clamped between Bell and Motor Flanges, Heavy Steel Bracket for attaching to Engine; Black Enamel Finish, Baked on.

Mushroom Push Button; Six Feet of Double Stranded Electric Cord with Terminals.

Projector 6 in. Long; Bell 4⅝ in. in Diameter; Length over all 11 in.; Height 7⅛ in.

Each

No. 136A—FOR 6 TO 8 VOLT CURRENT.....$13.40

Weight Each about 4½ lbs.

HAND OPERATED.

Heavy Drawn Sheet Steel Body and Bell securely Bolted; Wide Faced Case Hardened Hobbed Gears; Hardened Steel Bushings and Diaphragm; Double Supporting Adjustable Steel Bracket; Black Enameled Finish, Baked on.

The Plunger is Large, but will give a Warning with a slight Push; Will give a Loud, Clear and Long Sound.

Projector 5¾ in. Long; Bell 4⅝ in. in Diameter; Length over all 9 in.; Height over all 5⅜ in.

Each

No. 124—VERTICAL PUSH $8.00

Weight Each about 8½ lbs.

HAND OPERATED.

Drawn Sheet Steel Body and Bell securely Bolted; Case Hardened Gears; Steel Bushings and Diaphragm; Heavy Sheet Steel Bracket; Black Enameled Finish to Prevent Rust.

The Plunger is Short and will give a Clear, Loud, Long Warning Signal; Plunger is set at an Angle of 45° making possible a Simplication of Mechanism.

Projector 4½ in. Long; Bell 4⅜ in. in Diameter; Length over all 10 in.; Height over all 6 in.

Each

No. 151B—ANGLE PUSH $6.70

Weight each about 2 lbs.

One in a Cardboard Box.

ELECTRIC AUTOMOBILE LAMPS.

OLD SOL.

Body drawn from One Piece of Heavy Sheet Steel, Black Enameled Finish; Brass Door Frame, Nickel Plated and Highly Polished; "On and Off" Switch attached to Wiring Underneath Body, Controls the Light; Highly Polished Silver Reflector; Parabola Shape, with Perforations which allow for sufficient Light to Illuminate Rear Red Jewel; Equipped with 2.5 Volt Bulb with Focussing Tungsten Filament and 3½ ft. Insulated Double Wires.

Operates on Two No. 6 **E. C. SIMMONS** Comet Dry Batteries (BATTERIES NOT INCLUDED), which can be stored under Seat or some other convenient Place.

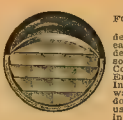
Each

No. 45L—Lamp 4¼ in. in Diameter, 3½ in. Deep, Complete, with Black Enameled Steel Dash Clamp Bracket for Attaching to Left Hand Side of Dash.....

Weight each about 2 lbs.....$4.70

One in a Cardboard Box

HEADLIGHT LENSES.



MACBETH.

FOR AUTOMOBILE HEADLIGHTS.

Clear White Glass, which is divided into Five Horizontal Prisms, each inclined at an Angle that was determined with scientific Accuracy so that the Light is bent at just the Correct Angle; It has a Green Enameled Glass Visor which is built Integral with the Lens and all upward Rays of Light are Redirected down which makes use of otherwise useless Light; The Concave Grooves in the back of the Lens spread the Light laterally, thus providing the very essential side lighting necessary for country driving and Turning Corners.

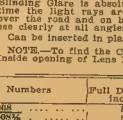
Gives a Headlight Range of 300 ft. or more on Clear nights when the Lamp Bulbs in the Headlights are Sharply Focused.

Eliminates Glare and Complies with all City and State No-Glare Laws, which require that the light strike below the 42 in. line 75 ft. ahead of the Car.

NOTE.—To find the Correct Lens wanted measure the Inside opening of Lens Door.

Numbers	Full Diameter Inches.	Weight per Pair about, lbs.	Per Pair
M8	8	3	$5 25 $7.90
M8½	8½	3½	5 25 7.90
M8¾	8¾	3¾	5 25 7.90
M8⅞	8⅞	3⅞	5.25 7.90
M9	9	3¼	5.25 7.90
M9½	9½	3½	5 25 7.90
M9¾	9¾	3¾	5.25 7.90
M9⅞	9⅞	4	5.25 7.90
M10	10	4¼	5 25 7.90
M10¼	10¼	4¼	5 25 7.90
M10⅜	10⅜	4⅜	5.25 7.90
M10½	10½	4½	5 25 7.90
M10¾	10¾	4⅝	5.25 7.90
M10⅞	10⅞	4¾	5.25 7.90
M11	11	5	5.25 7.90
M11¼	11¼	5⅛	5.25 7.90
M11½	11½	5¼	5.25 7.90
M11¾	11¾	5⅜	5.25 7.90
M12	12	5½	5.25 7.90

Packed Loose.



MORE-LITE.

FOR AUTOMOBILE HEADLIGHTS.

High Grade Glass; Outer Surface has four Concentric Panels, the face of each curved in Cross Section, with Center Rosette of Radial Petals and Button; Inner Surface has a plurality of Radial Panels, the face of each curved in Cross Section with Plain Center opposite Rosette and Outer Button.

The Prisms are arranged in such a manner that the Blinding Glare is absolutely overcome and at the same time the light rays are intensified and diffused evenly over the road and on both sides, making it possible to see clearly at all angles.

Can be inserted in place of old Lens in a few minutes.

NOTE.—To find the Correct Lens wanted, measure the Inside opening of Lens Door.

Numbers	Full Diameter Inches.	Weight per Pair about, lbs.	Per Pair
608	8	3	$2.00
608½	8⅛	3⅛	2.00
608¾	8¼	3¼	2.00
608⅞	8⅜	3⅜	2.00
609½	8½	3½	2.00
609⅝	8⅝	3⅝	2.30
609⅞	8⅞	3⅞	2.30
610	9	4	2.30
610½	9⅛	4⅛	2.30
610¾	9¼	4¼	2.30
610⅞	9⅜	4⅜	2.30
610⅝	9⅝	4½	2.60
610	10	5	2.60
610½	10⅛	5⅛	2.60
610¾	10¼	5¼	2.90
611	11	6	3.00
611½	11⅛	6⅛	3.00

Packed Loose.

PIPE WRENCHES

STILLSON

WOOD HANDLE

Fig. 6291A

STEEL HANDLE

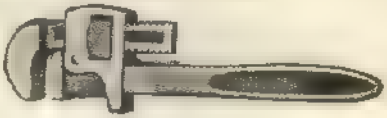


Fig. 6291B

Unless otherwise specified we will furnish wood handle wrenches in sizes from 6 to 14 inches. Steel handle wrenches, in sizes from 18 to 48 inches

Length, Open in.	6	8	10	14	18	24	36	48
Takes Pipe "	⅛ to ½	⅛ to ¾	⅛ to 1	¼ to 1½	¼ to 2	¼ to 2½	1 to 3½	1 to 5
Price each	2 00	2.25	2.50	3.50	5.00	7 25	13.50	20 00

EXTRA PARTS

JAW

Fig. 6291C

FRAME

Fig. 6291D

HANDLE

Fig. 6291E

NUT

Fig. 6291F

For Wrench inches	6	8	10	14	18	24	36	48
Price, Jaws each	.75	.80	.85	1.15	1.75	2.25	4 35	7 50
" Frames "	.38	.42	.50	.60	.75	.95	1.70	2.20
" Adjusting Nuts "	.12	.15	.20	.30	.35	.55	1.10	1.50
" Wood Handles "	.16	16	18	.25	..	.	.	. .
" End Nuts "	.15	.15	.20	.20	..	.	.	.
" Frame Pins "	.03	.03	.04	.04	.04	.04	.05	.05
" Spring Rivets "	.01	.01	.02	.02	.02	.02	.02	.02
" Springs "	.10	.10	.10	.10	.10	.11	.13	.13

TRIMO

Fig. 6291G

Length, Open in.	6	8	10	14	18	24	36	48
Takes Pipe "	⅛ to ½	⅛ to ¾	⅛ to 1	¼ to 1½	¼ to 2	¼ to 2½	½ to 3½	1 to 5
Price each.	2.00	2.25	2.50	3.50	5 00	7.25	13.50	20.00

EXTRA PARTS

JAW

Fig. 6291H

FRAME

Fig. 6291J

INSERTED JAW

Fig. 6291K

NUT

Fig. 6291L

NUT WITH GUARDS INSERTED

Fig. 6291M

For Wrench inches	6	8	10	14	18	24	36	48
Price, Movable Jaws each	.75	.80	.85	1 15	1 75	2.25	4 35	7 50
" Inserted " "	.35	.40	.50	.60	70	.80	1 10	2 00
" Frames "	.38	.42	.50	.60	75	.95	1 70	2.20
" Nuts "	.12	.15	.20	.30	35	55	1.10	1 50
" Springs "	.03	.03	.03	.03	04	04	.04	.04
" Frame Pins "	.03	.03	.04	.04	04	04	.05	.05
" Jaw Pins "	.03	.03	.04	.04	.04	.04	.05	.05

Write us Your Requirements for Goods Not Listed.

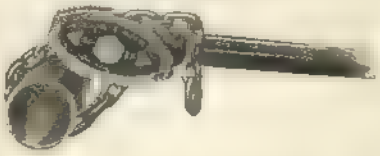
For Nearly a Century the Store of Service.

BILLINGS CHAIN PIPE WRENCHES

SHOWING INNER ENGAGEMENTS OF JAWS

The important and exclusive feature of the Billings Wrench is its double action or reversibility. Pipe can be turned in either direction without the process of removing and turning over the wrench.

CABLE CHAIN



This is due to the angular position of the elliptical jaws which allows the engagement of either the outer or inner teeth

The combination feature consists of its adaptability to pipe fittings and short connections as well as ordinary pipe. By removing the outside elliptical jaws, thereby bringing into play the narrow jaw

FOR PIPE FITTINGS

attached to the handle, the wrench is immediately converted into an efficient tool for narrow or irregular work where a broader wrench would be ineffectual

The elliptical jaws are serrated on all sides and may be easily changed.

AS ADAPTED TO FITTINGS, NIPPLES ETC

Fig 18424A

The above illustration shows wrench as adapted to fittings, etc., end for end, thus giving double life to the wrench.

With the outer jaws removed, the wrench is available for nut and bolt heads, as well as pipe fittings.

The handle is so designed as to give the necessary strength with minimum of weight

The handle and jaws are made from steel drop-forgings of superior quality, the jaws being carefully hardened. All parts are interchangeable

The tool is made with either flat-link or cable chain. The chains are made in the same factory, and are of sufficient safety-test to insure an absolutely reliable tool.

No.	Capacity Size Pipe Inches	Length Over All Inches	Length of Chain, Inches Flat	Cable	Price Each
14	⅛– ¾	14	8	9½	3.50
20	¼–1½	20	12½	14	4.50
27	¼ 2½	27	16½	19	6.50
37	¾ 4	37	20¾	27½	8.50
47	1 –6	47	30¼	33½	12.00
57	1½–8	57	41	38½	18.00
67	2 –12	67	55	66	26.00
87	4 –18	87	76	78	45.00

In ordering cable chain wrenches, precede the number with the letter. Unless otherwise ordered, wrenches will be sent with flat link.

Prices of extra parts on application.

GREENLEE

Machinery and Tools

Woodworking Machinery

Hollow Chisel Mortisers
Single and Multiple Spindle Borers
Self-Feed Rip Saws
Automatic Cut-off Machines
Special Sash and Door Machinery
Car Shop Machinery
Tie Adzing and Boring Machinery
Mine Timber Framers

Machine Tools

Flat Turret Lathes
Cylindrical Grinders
Double End Shaft Turning Lathes
Special Machinery

Wood Workers' Tools

Machine Bits and Chisels
Augers and Auger Bits
Carpenters' Chisels and Draw Knives

GREENLEE BROS. & CO.
ROCKFORD, ILLINOIS

TRADE (T) MARK

"Toledo"

—the mark of excellence on

Pipe Tools

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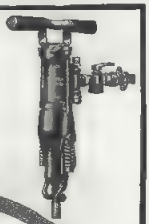

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Chicago Pneumatic Tool Co., 1012 Chicago Pneumatic Bldg., New York See Page 7
Dewey Supply Corporation, 18 W 34th St., New York See Advt. Index, Page 7
Hubbard-Floyd Co., Inc., The, 1112 Grand Central Palace, New York See Page 7
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Watson-Stillman Co., The, 1592 Hudson Terminal Bldg., New York.....See Page 7

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Compressors, Spring

Gyro Co., Washington, D. C
Hilco Mfg. Co., W. O., Harrisburg, Pa.
Schock Motor Co., Stamford, Conn
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Gas Machinery Co., Cleveland, O.
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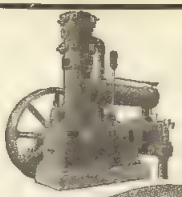

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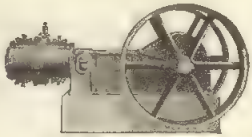

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Derrick Cars See Cars, Derrick

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Clyde Iron Works, Duluth, Minn.
Minneapolis Steel & Machy. Co., Minneapolis, Minn.
Orton & Steinbrenner Co., 610 S. Dearborn St., Chicago. See Advt. Index, Page 7
Terry Mfg. Co., Inc., Grand Central Terminal, New York

Derricks, Bridge Erection See Cars, Derrick

Derricks, Car Unloading

Dewey Supply Corporation, 18 W. 34th St., New York..... See Advt. Index, Page 7
Hubbard-Floyd Co., Inc., The New York
Taylor Portable Steel Derrick Co., 217 W. Grand Ave., Chicago (Gondola)..... See Advt. Index, Page 7

Derricks, Circle Swing

Dewey Supply Corporation, 18 W. 34th St., New York.....See Advt. Index, Page 7
Taylor Portable Steel Derrick Co., Chicago.

Derricks, Counterweight, Tripod

Taylor Portable Steel Derrick Co., Chicago.

Derricks, Floating

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Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

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Mooney, Douglas & Pearson, 193 Greenwich St., New York.....See Page 7
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Pigeon Hollow Spar Co., East Boston, Mass.
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Superior Iron Works, Superior, Wis.
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Green Company, Inc., G. S., 74 Warren St., New York.....See Advt. Index, Page 7
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Pittsburgh-Des Moines Steel Co., Pittsburgh Pa.
Taylor Portable Steel Derrick Co., Chicago.
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Orton & Steinbrenner Co., Chicago
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Channon Mfg. Co., James H., Chicago
Clyde Iron Works, Duluth, Minn
Dobbie Fdy. & Mach. Co., Niagara Falls, N. Y
Lidgerwood Mfg. Co., New York
Mundy Hoist Engine Co., J. S., Newark, N. J
National Hoisting Engine Co., Harrison, N. J.
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Dobbie Fdy. & Mach. Co., Niagara Falls, N. Y.
Taylor Portable Steel Derrick Co., Chicago.

Derricks, Setter, "A" Frame and Pole

Green Company, Inc., G. S., 74 Warren St., New York. (A-Frame).....See Page 7

Derricks, Steel

American Bridge Co., New York.
American Hoist & Derrick Co., St. Paul, Minn.
Buffalo Hoist & Derrick Co., 129 Erie St., Buffalo, N. Y. See Advt. Index, Page 7
Carnegie Steel Co., Pittsburgh, Pa. (Oil Water, Gas)
Channon Mfg. Co., James H., Chicago.
Clyde Iron Works, Duluth, Minn
Dewey Supply Corporation, 18 W. 34th St., New York..... See Advt. Index, Page 7
Federal Bridge & Structural Co., Waukesha, Wis.
Green Company, Inc., G. S., 74 Warren St., New York .....See Advt. Index, Page 7
Hayward Co., The, 50 Church St., New York ..... See Advt. Index, Page 7
Heller-Aller & Co., Napoleon, O.
Lakeside Bridge & Steel Co., No. Milwaukee.
Llewellyn Iron Works, Los Angeles, Cal.
Reading Engineering Co., Inc., New York.
Taylor Portable Steel Derrick Co., 217 W. Grand Ave., Chicago.
Terry Mfg. Co., Inc., Grand Central Terminal, New York.
Turl Iron & Car Co., Inc., Newburgh, N. Y.

Derricks, Steel, Portable

Buffalo Hoist & Derrick Co., 129 Erie St., Buffalo, N. Y.....See Advt. Index, Page 7
Byers Machine Co., The, 188 Sycamore St., Ravenna, O.....See Advt. Index, Page 7
Clyde Iron Works, Duluth, Minn.
Channon Mfg. Co., James H., Chicago.
Dewey Supply Corporation, 18 W. 34th St., New York.....See Advt. Index, Page 7
National Equipment Co., Chicago.
Taylor, John L., Chicago
Taylor Portable Steel Derrick Co., 217 W. Grand Ave., Chicago.....See Page 7

Derricks, Stiff-Leg See Derricks, Guy and Stiff-Leg

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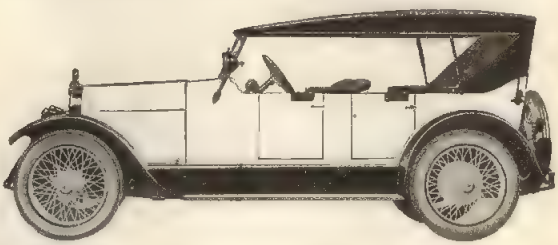

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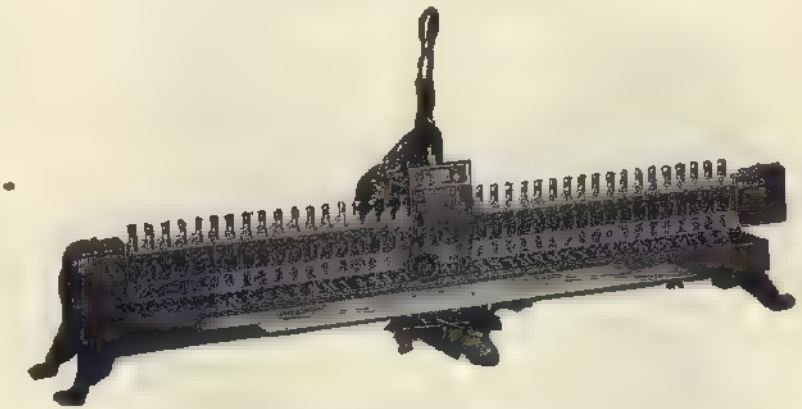

Fig. 29303A

The above illustration shows the Style A and B machine without stand legs, which are included in the regular equipment. Standard A Model is equipped with ¼-inch letter Standard B Model is equipped with ½-inch letter The straight line machine is the best type of stencil machine, both for durability and rapidity

Price, Either Style . . . . . each 125 00

STYLES E AND F ROUND

Fig. 29303B

Like all round machines, it is slower in operation than the Standard straight line make, but is equipped with the same die and punch, and carries with the same guarantee as the machine illustrated above.

The dial is on a wheel, and the wheel revolves the disc, this eliminates the danger, that is in all other machines, to fingers and hands, caused by having to take hold of the disc to revolve it.

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Seattle Frog & Switch Co., 1503-4 42nd Story, Smith Bldg., Seattle, Wash. See Advt. Index, Page 7
Union Switch & Signal Co., Tod, Sw ssvale, Pa.
U. S. Wind Engine & Pump Co., 98 Water St., Batavia, Ill. See Advt. Index, Page 7
"U. S." Rail Pus. Sw chstand. Is the strongest, best made and most economical to main tain. See illustration, page 247.
Weir Frog Co., Station K., Cincinnati, O. ..... See Advt. Index, Page 7
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Swivels
American Chain Co., Inc., Bridgeport, Conn. ..... See Advt. Index, Page 7
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Covert Mfg. Co., Troy, N. Y.
Hodges & Townsend Co., Philadelphia, Pa.
Niagara Falls Meta. Stamping Works, Niagara Falls, N. Y.
Williams & Co., J. H., 62 Richards St., Brooklyn, N. Y. (Drop-Forged.). See Advt. Index, Page 7
Wire Goods Co., Worcester, Mass.

Syphons See Siphons
Syphons, Nicholson Thermic
Locomotive Firebox Co., 630 Marquette Bldg., Chicago. See Advt. Index, Page 7
The Nicholson Thermic Syphon for locomotive fire boxes is an acknowledgement of the value of firebox heating surface to the steaming capacity and economical operation of a locomotive boiler. Firebox heating surface may be increased as much as 45% by the installation of this improvement which is readily applied to either new or old locomotives at a moderate cost, involves no maintenance charge, creates complete water circulation in the boiler, saves more than 15% of your fuel bill by increasing the amount of heat absorbed and promotes safety. Note cut in advertisement

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Systematizers
Holmes & Co., E. J., Chicago.

Systems, Book Keeping
Holmes & Co., E. J., Chicago.

Systems, Burning, Fuel Oil
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Lalor Fuel Oil System Company, Baltimore, Md.
Lancaster Iron Works, Inc., Lancaster, Pa. ..... See Advt. Index, Page 7
Wayne Oil Tank & Pump Co., Fort Wayne, Ind. ..... See Advt. Index, Page 7

Systems, Business
Holmes & Co., E. J., Chicago.

Systems, Circulating, Lubricating Oil
Wayne Oil Tank & Pump Company, Fort Wayne, Ind. ..... See Advt. Index, Page 7

Systems, Drying See Drying Systems
Systems, Filtering, Lubricating Oil
Wayne Oil Tank & Pump Company, Fort Wayne, Ind. ..... See Advt. Index, Page 7

Systems, Fuel Oil Heating
Sharpsville Boiler Works Company, Sharpsville, Pa.

Systems, Fuel Oil, Valves For
Lalor Fuel Oil System Company, 831 Colvin St., Baltimore, Md. ..... See Page 7

Systems, Heating See Heating Systems
Systems, Humidifying
Gordon, Inc., Robert, 632 W. Monroe St., Chicago. ..... See Advt. Index, Page 7
Ilg Electric Ventilating Co., 2840 N. Crawford Ave., Chicago. ..... See Page 7

Systems, Lubricating
Automotive Exchange of America, 201 Ulmer Bldg., Cleveland, O. ..... See Page 7
Bassick Mfg. Co., Chicago (Bush Pr. Sc.)
Hunter Pressed Steel Co., Pierce & Linden Sts., Lansdale, Pa. ..... See Page 7
Locomotive Lubricator Company, 1902 Tower Bldg., Chicago. ..... See Page 7

Systems, Piping, Ammonia
Vilter Manufacturing Co., The, 924 Clinton St., Milwaukee, Wis. ..... See Page 7

Systems, Pulverized Fuel
Bonnot Company, The, Canton, O.
Combustion Economy Corp., Chicago.
Pulverized Fuel Equipment Corp., New York.

Systems, Pumping, Fuel Oil See Pumping Systems, Fuel Oil
Systems, Reclaiming, Oil, Cutting and Lubricating
Wayne Oil Tank & Pump Company, Fort Wayne, Ind. ..... See Advt. Index, Page 7

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Exhaust steam used to heat building and hot rooms; to warm the air for air conditioning and to warm the water for domestic and process purposes. In summer used by absorption method to produce refrigeration, cooling rooms to from 45° F. to 60° F. According to requirements; also air conditioning.

The Kelly Controller

—For High Pressure Boilers
—For Low Pressure Heating Systems

The Kelly High Pressure Controller

The Kelly High Pressure Controller combines in one device the advantages of practically every type of boiler safety appliance.

High Pressure Controller Note Simplicity.

Serves as a Safety Device

The Kelly Controller automatically closes when boiler primes, syphons or ruptures saving tubes, crown sheets, cylinder heads and lives.

Acts as a Non-Return Valve

When a rupture occurs in the boiler, causing a reversal of steam flow or velocity condition, the valve within the controller chamber seats, cutting out the boiler and preventing syphoning of other boilers in the same battery and possible explosions or shutdown of the entire plant.

Also Acts as an Alarm

When the boiler ruptures or begins to prime, water accumulates in the bottom of the controller chamber causing the float to rise which actuates the alarm valve and sounds the steam signal. If the alarm is not heeded, the lever automatically closes and cuts off the boiler the alarm continuing until the condition is remedied.

As a Stop Valve

As a stop valve, the controller may be closed with the hand wheel when the engineer desires to cut off the boiler.

As a Steam Separator

The Kelly Controller removes water from the steam, allowing only dry steam to pass into the system. This eliminates the danger of water slugs being delivered to engine and protects against blowing out of cylinder heads.

The Kelly Low Pressure Controller

No matter how unskilled the attendant in charge of the heating system, the Kelly Low Pressure Controller provides safety and increases the life of boilers by automatically overcoming every condition which is responsible for cracked sections, explosions, and the many minor troubles that dwarf boiler output.

When a slight surging condition occurs in boilers the water is returned by a bleeder pipe.

When an excess of water accumulates in the controller, due to priming, feed water is automatically discharged into the boiler, lowering the temperature of the overheated surging water.

When the boiler becomes too unruly, due to improper firing, the controller cuts off all communication with the system, eliminating all hazard.

An automatic feed water regulator is supplied as optional equipment. It constantly maintains a safe water level no matter how unskilled the operator.

The new catalogs are ready

They describe in detail the high or low pressure controller. Write for both or either to any of the offices listed below.

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175 W. Jackson Blvd., Chicago

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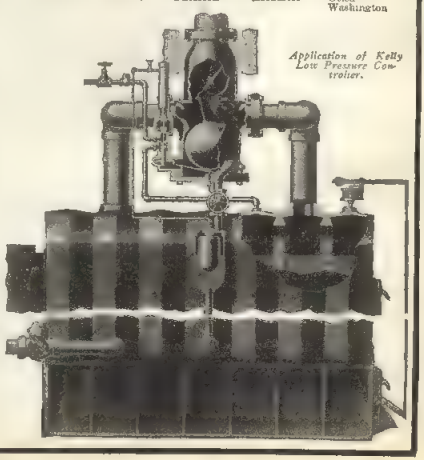

Application of Kelly Low Pressure Controller.

THE HANNA LOCOMOTIVE STOKER

U. S. R. A. Heavy Santa Fe 2-10-2 B Locomotive

A stoker is efficient or inefficient as its distributing features are efficient or inefficient.
The Hanna Distributing Features explain why The Hanna Stoker consumes less fuel than other stokers, has recorded an equivalent evaporation average of nine pounds of water per pound of coal and has operated three thousand miles without opening the fire door.

THE HANNA LOCOMOTIVE STOKER CO. **Cincinnati, Ohio**

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Kemp Mfg. Co., C. M., Baltimore, Md.
Landau, Inc., John A. (Die and Tool Hospital), 246 Canal St., New York . . . . . See Advt. Index, Page 7
Lowell Wrench Co., 54 Commercial St., Worcester, Ma . . See Advt. Index, Page 7
Ramsey Sons, D. L., Inc., Pittsburgh, Pa.
Wilmington Machine Tool Co., Wilmington, Del.
New Tool & Machine Co., Chicago
Oster Mfg. Co., The, Cleveland, O.
Pond & Son, A. J., Millersburg, Pa.
Pratt & Whitney Co., Hartford, Conn.
Rapid Tool & Machine Co., Ltd., Lachine, Que., Canada
Robbins, Gamwell & Co., Pittsfield, Mass.
Saunders' Sons, D., Yonkers, N. Y.
Southern Hardware & Supply Co., St. Louis, Mo. . . . . . See Advt. Index, Page 7
Standard Supply & Hardware Co., Inc., New Orleans, La.
Toledo Pipe Threading Machine Co., The, 1425-1445 Summit St., Toledo, O. . . . . . See Advt. Index, Page 7

The famous line of "Toledo" Stocks and Dies are unrivaled for lightweight, compact design, dependable construction, easy operation and accurate performance. Complete range of capacity runs from ½-inch to 12-inch pipe inclusive.

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Standard Supply & Hardware Co., Inc., New Orleans, La.

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Builders of the Hanna Locomotive Stoker.
The Hanna Locomotive Stoker is the only stoker firing U. S. R. A. Heavy Santa Fe Class 2-10-2 B locomotives to constant maximum capacity without the slightest modification of grate area, ash pan, boiler head or fire door.

FIVE REASONS WHY THE HANNA STOKER SAVES COAL

1—The Hanna Stoker forces the fine particles of coal to the fire and thus prevents them from passing to the flues unburned.
2—The Hanna Stoker duplicates smokeless hand coal firing, which means perfect combustion.
3—The Hanna Stoker covers an entire fire zone without opening the fire door, permitting a more uniform fire box temperature to be maintained.
4—The Hanna Stoker burns out clinker to a powder which prevents engine failures and saves coal.
5—The Hanna Stoker does not permit coal to fall to right-of-way between engine and tender.

Three Thousand Miles Without Opening the Fire Door

Locomotive Stoker Co., Robinson & Darrah Sts., N. S., Pittsburgh, Pa. (Builders of the Locomotive Stoker) . . . . . See Page 7

Builders of the Duplex Stokers and the Horizontal and Slope Sheet Coal Pushers.
More than 3,000 Duplex Stokers are successfully firing a large majority of the largest and most powerful locomotives ever constructed, as well as the standardized locomotives of the United States Railroad Administration. The most powerful of these locomotives would not have been constructed had it not been successfully demonstrated that they could be fired to full capacity by Duplex Stokers. Duplex Stoker enable the heaviest and most powerful locomotives to be worked at full capacity over the ruling grade under the most trying conditions. They fire mine run, stoker coal and the same lump coal as is used in hand-firing—resulting in fuel economy equal to and better than the best hand-firing because they fire regularly at the rate of combustion. The results are a material reduction in the cost of transportation, more tonnage with less locomotives over a given division and the elimination of severe physical strain from the duties of the firemen. Quality construction and durability throughout as well as correct mechanical principle characterize the latest "D" type DUPLEX STOKER. In full control of the fireman at all times, this Stoker interferes in no way with the fire door or the fire box back-head. Slope-Sheet and Horizontal Coal Pushers are diminishing wasted labor on the part of the firemen on 430 United States Railroad Administration switch-engine tenders alone. Slope-sheet coal pushers can be applied to coal tenders already built and in service, but the Horizontal Coal Pusher is inbuilt in the design of the tender.

Stokers, Mechanical

American Eng'g Co., Philadelphia, Pa.
American Fdry. & Casting Co., Dayton, O.
Babcock & Wilcox Co., The, 85 Liberty St., New York.

Chain grate type described in special catalogue.

Brady Foundry Co., The James A., 4502 Wheeler Blvd., Chicago . . . . . See Page 7

The Harrington Stoker is a completely automatic mechanical stoker adapted to the firing of [illegible] anthracite coal [illegible] the market.

Burke Furnace Co., Chicago
Combustion Eng'g Corp., New York, N. Y.
Duncan Bros. & Mech. Works, Alton, Ill.
Erie Foundry Co., Erie, Pa . . . . . See Page 7
Green Engineering Co., East Chicago, Ind.
Hagan Corporation, The, Pittsburgh, Pa. . . . . . See Advt. Index, Page 7
Laclede-Christy Clay Prod. Co., St. Louis, Mo.
Lawler Engineering Co., New York.
Mechanical Stoker Co., Ltd., Toronto, Ont., Can.
McKenzie Furnace Co., Chicago.
McMillan & Co., James, Chicago.
Murphy Iron Works, Detroit, Mich.
Rosedale Fdry. & Mach. Co., Pittsburgh, Pa.
Under-Feed Stoker Co. of America, Book Bldg., Detroit, Mich. . . . . . See Page 7

The Jones "A" (automatic-cleaning) Under-Feed Stoker is essentially a high-duty stoker, and is well adapted for use where continued runs at high speed are necessary. It is entirely automatic, self-cleaning and will not clinker. The automatic controls hold the steam pressure even at all times and facilitate complete combustion of even the poorest grades of fuel.

The Jones Standard Stoker is ideal for smaller plants where it gives capacity and flexibility with greatest economy of fuel and labor. It can be installed in plants that are too small to economically operate other types of stokers.

Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa. . . . . . See Advt. Index, Page 7
Wetzel Mechanical Stoker Co., Trenton, N. J.

Stone, Building

Birmingham Realty Co., Birmingham, Ala.
Brainerd, Shaler & Hall Quarry Co., Portland, Maine.
Breen Stone & Marble Co., Kasota, Minn.
Buffalo Cement Co., Buffalo, N. Y.
Carthage Marble & White Lime Co., Carthage, Mo.
Cleveland Stone Co., Cleveland, O.
Columbia Gran. & Dredging Co., Washington, D. C.
Hoadley Stone Co., Bloomington, Ind.
Hummelstown Brown-Stone Co., Waltonville, Pa.
Ingalls Stone Co., Bedford, Ind.
Kampeska Materials Co., Watertown, S. D.
Lake Shore Stone Co., Milwaukee, Wis.
Port Deposit Quarry Co., Port Deposit, Md.
Tyson, J. L., Philadelphia, P.
Wilkeson Sand Stone Quarry Co., Wilkeson, Wash.
Williamson, Frank, Philadelphia, Pa.

Stone, Building, Artificial

Buffalo Litholite Co., Buffalo, N. Y.
Onondago Litholite Co., Syracuse, N. Y.
Rackle & Sons Co., Geo., Cleveland, O.
Truswall Mfg. Co., Kansas City, Mo.

Stone, Crushed See also Granite, Crushed

ARIZONA

Big Rock Stone & Cons. Co., Little Rock

CALIFORNIA

California Portland Cement Co., Los Angeles.

CONNECTICUT

Ansonia Trap Rock Co., Ansonia
Blakeslee & Sons, C. W., New Haven.
Burns Company, Bridgeport.
Conn. Quarries Co., New Haven.
Lane Quarry Co., Meriden.

DELAWARE

Stewart & Donohue, Wilmington.

GEORGIA

Ladd Lime & Stone Co., Cartersville, Ga.

ILLINOIS

Artesian Limestone Co., Chicago
Brownell Improvement Co., Chicago.
Chicago Union Lime Works Co., Chicago.
Dolese & Shepard Co., Chicago.
Dolese Bros. Co., Chicago.
East St. Louis Stone Co., East St. Louis.
Illinois Stone Company, Chicago.
Kettle River Co., Madison.
Lake Shore Sand Co., Chicago.
Lehigh Stone Co., Kankakee.
Menke Stone & Lime Co., F. W., Quincy.
O'Laughlin, A. C., Chicago.
Stearns Lime & Stone Co., Chicago.
United States Crushed Stone Co., Chicago.
Western Stone Co., Chicago
Wisconsin Granite Co., Chicago.

INDIANA

Bedford-Nugent Co., Evansville.
Erie Stone Co., Ft. Wayne.

IOWA

Ft. Dodge Portland Cement Corp., Ft. Dodge
Ft. Madison & Appanoose St. Co., Ft. Madison.

MARYLAND

Grove Lime Co., M. J., Lime Kiln Md
Port Deposit Quarry Co., Port Deposit.

MASSACHUSETTS

Beatty Construction Co., Boston
West Roxbury Trap Rock Co., Boston.

MICHIGAN

Calvert's Sons, J., Detroit.
White Marble Lime Co., Manistique.

MINNESOTA

Babcock & Wilcox, Kasota.
Blesanz Stone Co., Winona
Blue Limestone Co., Minneapolis.
Breen Stone Co., Kasota.
Duluth Crushed Stone Co., Duluth
Fowler & Pay, Mankato.
Minnesota Crushed Stone Co., Minneapolis

MISSOURI

Bruner Granitoid Co., P. M., St. Louis.
Dewey Portland Cement Co., Kansas City.
Lyle Rock Co., Kansas City.
Phelps Stone & Supply Co., Kansas City

(Continued on following page)

500 WATT—32 VOLT
TYPE M—GENERATOR

LOCO LIGHT

Incandescent Headlight Equipment for Locomotives

Full 500 Watt Capacity—Low Steam Consumption.
Low Operating Costs—Low Maintenance Costs.

Write for full information and test proposition.

The Loco Light Co., Indianapolis

Hawsers, Manila

Columbian Rope Co., Auburn, N. Y.
Fusher & Hayes Rope Co., Chicago
Standard Supply & Hardware Co., Inc., New Orleans, La.
Wall Rope Works, Inc., 48 South St., New York ..... See Advt. Index, Page 7
Williams, William B., New York.
Wing & Son Corp., R. D., Albany, N. Y.
Woolverton, Wight & Co., Ltd., New Orleans La.

Hay and Grain Unloading Tools

Myers & Bro., F. E., Ashland, O. ..... Page 7

Headers, Bolt and Rivet

(Machine tools designed for upsetting and forging either bolt or rivet heads or both. Pattern depends upon class of work required)
Acme Machinery Co., The, 4833 St. Clair Ave., N. E., Cleveland, O. ..... Page 7
Ajax Mfg. Co., Cleveland, O.
Howard Iron Works, Buffalo, N. Y.
Kent Machine Co., Kent, O. (Rivet)
Manning Maxwell & Moore, Inc., Waterbury, Conn.
Nation... Machinery Co., Tiffin, O.
New Lory Mfg. Co., Janesville, Wis.
Waterbury Farrell Fdry. & Mach. Co., Waterbury, Conn.

Headers, Hammer

Acme Machinery Co., The, 4833 St. Clair Ave., N. E., Cleveland, O. ..... Page 7

Headers, Pipe

Crane Company, 836 S. Michigan Ave., Chicago ..... See Advt. Index, Page 7
Dougherty Company, M. J., 25th and Washington, Ave., Philadelphia, Pa. (Welded) See Advt. Index, Page 7
Steel pipe headers with outlets with reinforced ribs and flanged with our improved Square Lap Vanstone Joint. See Pipe Flanged). Headers for high or low pressure steam, water, oil and air when so fabricated in our modern factory will outlast the plant in which they are installed.
Larkin & Co., J. K., 253 Broadway, New York ..... See Advt. Index, Page 7

Headers, Steam

Crane Company, 836 S. Michigan Ave., Chicago ..... See Advt. Index, Page 7
Kelly Controller Co., 175 W. Jackson Blvd., Chicago ..... See Advt. Index, Page 7
Boiler controller for low pressure boilers. Acts as safety device, steam separator, emergency drum separator reducer, automatic water feeder and overcomes surging, priming and syphoning. Prevents cracking of sections, ruptures and explosions. Takes place of steam header.

Headlight Reflector Replating

Adams & Westlake Co., Chicago
Dayton Mfg. Co., Dayton, O.
Star Head Light & Lantern Co., Rochester, N. Y.
U. S. Headlight Co., Buffalo, N. Y.

Headlights, Automobile See Lamps, Automobile, Electric; also Lamps, Automobile, Gas and Oil

Headlights, Car, Electric

Adams & Westlake Co., Chicago
American Car Co., St. Louis, Mo.
Dayton Mfg. Co., Dayton, O.
General Electric Co., Schenectady, N. Y. ..... See Advt. Index, Page 7
Gra... Mfg. Co., Rochester, N. Y.
Ohio Brass Co., The, Mansfield, O. ..... See Advt. Index, Page 7
Star Head Light & Lantern Co., Rochester, N. Y.
Western Electric Company ..... See Advt. Index, Page 7
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa. ..... See Advt. Index, Page 7

Headlights, Electric

Climax Locomotive Co., Seattle, Wash.
Electric Service Supplies Co., 17th & Cambria Sts., Philadelphia, Pa. ..... See Page 7
U. S. Headlight Co., Buffalo, N. Y.
Western Electric Company ..... See Page 7

Headlights, Electric, Repair Parts

Oliver Electric & Mfg. Co., St. Louis, Mo.
Pyle-National Company, The, Chicago

Headlights, Locomotive, Acetylene Gas

Adams & Westlake Co., Chicago
Dayton Mfg. Co., Dayton, O.
Dressel Manufacturing Corp., New York.
Macleod Company, The, Cincinnati, O.
Star Head Light & Lantern Co., Rochester, N.Y.
U. S. Headlight Co., Buffalo, N. Y.

Headlights, Locomotive, Electric

Adams & Westlake Co., Chicago
Buda Company, The, 606 Railway Exchange, Chicago ..... See Advt. Index, Page 7
"Buda Rays" are headlights, incandescent 1000 watt capacity, and model "GW" incandescent 500 watt capacity. For locomotives, wrecking cranes, steam shovels, excavators, small boats, etc.
Certes Supply Co., 727 Frisco Bldg., St. Louis, Mo. See Advt. Index, Page 7
Dayton Mfg. Co., Dayton, O.
Dressel Manufacturing Corp., New York.
Electric Service Supplies Co., 17th & Cambria Sts., Philadelphia, Pa. ..... See Page 7
General Electric Co., Schenectady, N. Y. ..... See Advt. Index, Page 7
Glazier Mfg. Co., Rochester, N. Y.
Loco Light Co., The, 139 S. East St., Indianapolis, Ind. ..... See Advt. Index, Page 7
The Loco Light Turbo Generator, specialized as 500 Watt capacity, 32 volts, is especially built for dependable head lighting for locomotives. Operating and maintenance costs are exceptionally low.
No valve mechanism to need maintenance or get out of order; a simple mechanical governing device maintains constant voltage.
Automatic oiling device—oil only once every sixty days.
No packing to leak or to be renewed.
Full capacity generator well insulated for overloads.
Low steam consumption.
Low first cost—low operating cost—low maintenance cost—small repair part stocks.
The Turbo Generator is ideal for Dependable Service. Let us prove it by sending you a test machine.
Pyle-National Company, The, 1334 N. Kostner Ave., Chicago ..... See Page 7
Pyle-National Steam Turbine Driven Direct Current Dynamos for operating Locomotive Electric Headlights, Suburban Train Lighting, Stationary and isolated plants where a small steam driven electric generator is desired. Turbine, Oil Engine, Contractors Operations and various industrial fields.

(Continued on following page)

Look for the Noun!

The Classified Material Section of MacRae's Blue Book is arranged alphabetically according to the noun.

Thus, you should look for Drills, Twist, rather than Twist Drills.

ELECTRIC HEADLIGHTS AND TURBO-GENERATORS

Headlight and Turbo-Generators for Locomotive Headlighting Service. Turbo-Generators for supplying Electric Service for Dredges, Steam Shovels, Derricks, Wrecking Cranes, Oil Well Drilling Rigs, Logging Skidders, Tugboats, etc.

America's Foremost Headlight Builders for 36 Years.

Sunbeam Electric Manufacturing Co.

Evansville, Indiana, U. S. A.

Offices: New York, Richmond, Va , St. Louis, Chicago, and San Francisco.

The dynamos are direct current, compound wound. The units are built in five types of capacities
Type K-2 500 watts, 32 volts.
Type K-2 500 watts, 32-110 volts
Type F 1500 watts, 32-220 volts.
Type T 2500 watts capacity, 32-220 volts
Type M, 3500-5000 watts capacity, 32-200 volts
Headlight cases for locomotive incandescent head lights are furnished in various styles and sizes. These are built of heavy steel-reinforced, all joints electrically welded. A cast metal case with glass reflector combines features and refinements superior to headlight standards heretofore demanded
All metal reflectors made from heavy copper accurately spun to form and heavily silverplated. The glass reflectors are made to our specifications and are furnished either in crystal or amber color
More than 65,000 Pyle National turbo-generators are in operation

Sunbeam Electric Manufacturing Co., The, (Formerly Schroeder Headlight & Generator Co.), Evansville, Ind.

Manufacturers of Sunbeam Electric Headlights and Sunbeam Type RE-3, 500 watt 32 volt D. C. Turbo Generator for Locomotive Headlight Service
Sunbeam Turbo Generators are of simple design and rugged construction to successfully meet all requirements of adverse operating condition
Accurate fits to permit quick inspection or adjustment and interchangeability of parts so essential in this class of machinery has been worked out to a marked degree
Reliable and efficient governor and valve mechanism provides for economical operation at all steam pressures
Constant voltage over a wide range of steam pressures is an important feature of the Sunbeam
Sunbeam Electric Headlights can be furnished in various patterns and sizes.
Full descriptive matter on application

Star Head Light & Lantern Co., The, Rochester, N. Y.
United States Headlight Co. Buffalo, N. Y
Western Electric Company . . . . . **See Page 7**
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. . . . **See Advt. Index, Page 7**
Woodward, Wight & Co., Ltd. New Orleans.

Headlights, Locomotive, Oil

Adams & Westlake Co., Chicago.
Dayton Mfg. Co., Dayton, O.
Drexel Manufacturing Corp., New York.
Glazier Mfg. Co., Rochester, N. Y.
Miller & Sons Co., A. D., Pittsburgh, Pa.
Star Head Light & Lantern Co., Rochester, N.Y
Sunbeam Electric Manufacturing Co., The, (Formerly Schroeder Headlight & Generator Co.), Evansville, Ind.
United States Headlight Co., Buffalo, N. Y.
Woodward, Wight & Co., Ltd., New Orleans.

Headlights, Repairs to See Headlights, Electric, Repair Parts

Headlinings, Car

(Prepared linings with which the ceilings of passenger cars are covered.)

Adams & Westlake Co., Chicago.
American Car & Foundry Co., New York
American Veneer Co., Hoboken, N. J.
Armstrong Cork & Insulation Co., Pittsburgh, Pa.
Frost's Veneer Seating Co., Sheboygan Wis
Haskelite Mfg. Corp., 133 W. Washington St., Chicago . . . . . **See Advt. Index, Page 7**
Haskelite is lighter and many times as strong, as wood pulp board. Stronger than steel per unit of weight. It does not shrink, split, sag, nor bulge.
Jones Lumber Company, Inc., The E. T., North Tonawanda, N. Y . . . **See Page 7**
Keyes Products Co., New York
Newbegin Lumber Co., Tacoma, Wash

Heads, Barrel, Pressed Steel

Bossert Corporation, The, Linden St. and West Ave., Utica, N. Y. . . . . . **See Page 7**
Geuder, Paeschke & Frey Co., Viaduct Valley, Milwaukee, Wis. . . . . . **See Page 7**
Koppering Co., Inc., Buffalo, N. Y
Leader Iron Works, Decatur, Ill. **See Page 7**
Youngstown Pressed Steel Company, The, Warren, O . . . . . **See Advt. Index, Page 7**

Heads, Beater

Youngstown Pressed Steel Company, The, Warren, O.

Heads, Boiler and Tank

Central Iron & Steel Co., Harrisburg, Pa
Crucible Steel Co. of America, Pittsburgh, Pa.
Glasgow Iron Co., Pottstown, Pa.
Koven & Brothers, L. O., Jersey City, N. J
Leader Iron Works, Decatur, Ill **See Page 7**
McAleenan Brothers Co., Pittsburgh Pa
Midvale Steel & Ordnance Co Philadelphia, Pa.
Munroe & Sons Mfg. Corp., R., Pittsburgh, Pa.
Petroleum Iron Works Co., Sharon, Pa.
Phoenix Iron Works Co., Meadville, Pa.
Ryerson & Son, Jos. T., Chicago, New York, Buffalo, St. Louis, Detroit **See Page 7**
Standard Boiler & Plate Iron Co., Niles, O.
Youngstown Pressed Steel Company, The, Warren, O. . . **See Advt. Index, Page 7**

Heads, Boring

Marvin & Casler Co., Canastota, N. Y
Porter-Cable Machine Co., Syracuse, N. Y.

Heads, Brake Beam

(Casting attached to the brake beam and carrying the brake shoe.)

Buffalo Brake Beam Co., 32 Nassau St., New York . . . . . **See Advt. Index, Page 7**
Chicago Railway Equipment Co., 1420 McCormick Bldg., Chicago . . . . . **See Page 7**
We manufacture the Automatically Adjustable Brake Heads of which Pattern Number 1538, standard on Pullman equipment, is the best known example. These Automatically Adjustable Brake Heads prevent any distortion of the brake beam structure proper, insure even shoe wear with attendant increased friction between the shoe and the wheel, make possible hanging at any height without change in the brake beam and transmit to the shoes all the load applied to the brake beam. We also manufacture a non-automatically adjustable head, of which drawings will be furnished upon application.

Damascus Brake Beam Co., Cleveland O
Ft. Pitt Steel Casting Co., McKeesport, Pa.
Joliet Railway Supply Co., Chicago.
Kuebler Foundries, Inc., Easton, Pa.
National Malleable Castings Co., The, Cleveland, O.
Pressed Steel Car Co., Pittsburgh, Pa . . . . . **See Advt. Index, Page 7**
Western Steel Car & Foundry Co., Pittsburgh, Pa.

Heads, Casing

Kelly & Jones Co., The, Greensburg Pa
Leader Iron Works, Decatur, Ill. **See Page 7**

Heads, Cutter

Buettner & Shelburne Mach. Co., Terre Haute, Ind
Fay & Egan Co., J. A., Cincinnati, O. **See Page 7**
Hermance Machine Co., Williamsport, Pa
Huther Bros. Saw Mfg. Co., Williamsport, Pa.
Oliver Machinery Co., Grand Rapids, Mich.
Philbrick Cutter Head Co., Seattle, Wash
Schellenbach-Hunt Tool Co., Cincinnati, O.
Shimer & Sons, Sam'l J., Milton, Pa.
Yates Machine Co., P. B., Beloit, Wis.

THE NEW KINGSTON

CUTOUT FOR FORDS

THE NEW KINGSTON GENERATOR CUTOUT is built with painstaking care. All work has been done with the same accuracy that characterizes the finest watch, and the device is fully guaranteed. The Cutout is so constructed that it may be placed directly upon the generator, and no extra wiring or additional labor is required. A heavy, steel cover renders it water-proof. It is built to withstand vibration, wear and tear. The best on the market at a highly attractive price.

Price $1.75

DEALERS: Write at Once for Special Proposition

Kokomo Electric Company
KOKOMO, INDIANA

NOJAK
YOUR MOTOR BOSS

Makes the Motor Jack-Up the Car

INSERT a Nojak into two special holes in the rim (felloe) of a wheel—then drive ahead two or three feet until wheel is jacked-up as shown in picture. So easy! No soiled hands and tired back. Also a Nojak can be left on wheel and used as a mud or snow hook. This welcome invention has two other important uses. Endorsed by engineers and thousands of enthusiastic users. Write for illustrated booklet and prices.

AMERICAN ACCESSORIES CO.
Dept. L 1489 East Fort Street Detroit
Distributors—James Wright Wheel Inc., 1817 Broadway, N. Y. City (Penn., N. J., N. Y., and New England States.) Frank White Co., Edwards, Miss. (Tex., La., Miss., Ala. and Tenn.) Pacific Auto Specialty Co., 1155 South Olive St., Los Angeles, Cal., (Pacific Coast States.) The Paul Nissen Corp., 320 State St., S. E., Gd. Rapids, Mich. (N. & W. Mich.) Wallace-Holmes Co., 118 Victoria St., Walkerville, Ont., Can., (Dominion of Canada.) Powell-Kenney Motors Co., 1244-50 Lincoln St., Denver, Colo.

-LAMCO-
Trade-Mark Reg.

That High Sign of Quality and Service

SPECIAL BODIES FOR FORDS
SPORTING—TOURING—RACING

A Model for Every Demand

We Make Deliveries—Not EXCUSES

"SUDDEN SERVICE"—THAT'S US

LEHMAN MFG. COMPANY
CANNELTON INDIANA

The Peerless Hand Hoist

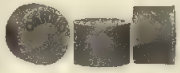
Single cable, quadruple worm-gear drive. Only two gears—quadruple and worm—both machine-cut and protected from dust and dirt. Weighs only 200 pounds and is a model of high efficiency performance. It is

Simple—Powerful—Lasting

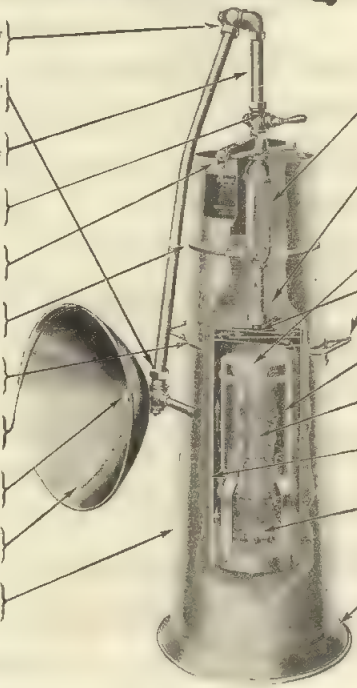
Will fit any make of chassis and style of body, and can be installed without drilling. Only one-half to two minutes required to lift—time according to load and length of body. Elevates from 30 to 50 degrees.

Write for complete details covering this hoist and our line of all-steel bodies.

THE AUGLAIZE HOIST & BODY COMPANY
New Bremen, Ohio



The Simple Carbic Light



Swing joint for "up" or "down" adjustment.

Swing joint for "right" or "left" adjustment.

Standard pipe and fittings—replaceable on the job.

Convenient lever handled valve.

Readily adjusted clips—hold inner parts to tank.

Operating water level.

Charging water level.

Steel back—aluminum lined parabolical reflector.

Storm proof, indestructible, all metal burner.

Ever ready automatic burner cleaner.

Sturdy, galvanized iron water tank.

Hair filter chamber.

Handy cake holder support rods extending to bottom of gas bell.

Convenient handles—at proper height.

Cake holder cover

Condenser plates—assuring cool, dry gas.

Accessible cake holder—easily charged.

Carbic Cakes—no waste.

Gas bell—water sealed, safe

Bottom of lowest cake only point of gas generation.

Flanged bottom—a firm base—built for rough usage.

★ Note simplicity. No pumps, screens, pockets, clockwork devices or moving parts.

THE Carbic SYSTEM

RAILROADS demand simplicity in their equipment—yet the equipment must DO THE JOB.

That is why Carbic is the favorite Portable Light for railroads. It is simple and easy to handle, and more—it is DEPENDABLE.

Carbic Lights use Carbic Cakes—no fuss—no muss—no waste.

Study the inside view, then write for the "Story of the Carbic Light." It will interest you and pay you.

Carbic Manufacturing Company

Duluth, Minnesota

New York: 141-149 Centre Street

Boston: 27 School Street

Chicago: 111 W. Washington Street

Philadelphia: 18 South 7th Street

Representatives and Stocks in all Principal Cities

Scales, Platform, Portable

(Scales for weighing general merchandise.)

American Kron Scale Co. (Automatic Springless Dial Scales,) 430 E. 53rd St., New York. (Automatic Dial. All Types.) . . . . See Advt. Index, Page 7
Buffalo Scale Co., Inc., 1210 Niagara St., Buffalo, N. Y. . . . See Advt. Index, Page 7
Cincinnati Scale Mfg. Co., Cincinnati, O.
Dunkle Co., Arthur J., 50 Church St., New York. . . . . See Advt. Index, Page 7
Fairbanks, Morse & Co., Chicago
Gross Hardware & Supply Co., Phillip, 216-218-230 Fourth St., Milwaukee, Wis. . . . . See Advt. Index, Page 7
Howe Scale Co., of Ill. Chicago.
Howe Scale Co., Rutland, Vt.
Jones of Binghamton, Binghamton, N. Y.
Knowles Scale Works, Lowell, Mass.
Standard Scale & Supply Co., The, 1631 Liberty Ave., Pittsburgh, Pa. . . . . See Page 7

Scales, Postal

(Small receiving beam scales provided with pan for mail matter. The beam may be graduated in both avoirdupois ounces and also in cents for the different classes of mail.)

American Cutlery Co., Chicago.
Buffalo Scale Co., Inc., 1210 Niagara St., Buffalo, N. Y. . . . See Advt. Index, Page 7
Chatillon & Sons, John, New York.
Howe Scale Co., Rutland, Vt.
Pelouze Mfg. Co., Chicago.
Standard Scale & Sup. Co., The, Pittsburgh, Pa.
Triner Scale & Mfg. Co., Chicago.

Scales, Postal Automatic See Scales, Automatic

Scales, Railway See Scales, Track

Scales, Revolving Dial See Scales, Computing

Scales, Rolling Mill

(Portable platform scales designed for rough usage in weighing logs, bars and other heavy material.)

American Kron Scale Co. (Automatic Springless Dial Scales), 430 E. 53rd St., New York. (Automatic Dial. All Types.) . . . . . See Advt. Index, Page 7
Buffalo Scale Co., Inc., 1210 Niagara St., Buffalo, N. Y. . . . See Advt. Index, Page 7
Fairbanks, Morse & Co., Chicago.
Howe Scale Co., Rutland, Vt.
Standard Scale & Supply Co., The, 1631 Liberty Ave., Pittsburgh, Pa. . . . . See Page 7

Scales, Spring, Indicator

Buffalo Scale Co. Inc., Buffalo, N. Y.
Chatillon & Sons, John, New York.
Standard Scale & Sup. Co., The, Pittsburgh, Pa.
Star Brass Manufacturing Co., Boston, Mass.

Scales, Springless Dial

American Kron Scale Co. (Automatic Springless Dial Scales), 430 E. 53rd St., New York. (Automatic Dial. All Types.) . . . . . See Advt. Index, Page 7
Fairbanks, Morse & Co., Chicago

Scales, Stock See Scales, Wagon

Scales, Suspension

American Kron Scale Co. (Automatic Springless Dial Scales.), 430 E. 53rd St., New York. (Automatic Dial. All Types.) . . . . . See Advt. Index, Page 7
Buffalo Scale Co., Buffalo, N. Y.
Fairbanks, Morse & Co., Chicago.
Standard Scale & Sup. Co., The, Pittsburgh, Pa.

Scales, Tank See Boards, Indicator Tank

Scales, Textile

American Kron Scale Co. (Automatic Springless Dial Scales.), 430 E. 53rd St., New York. (Automatic Dial. All Types.) . . . . . See Advt. Index, Page 7
Fairbanks, Morse & Co., Chicago.
Standard Scale & Sup. Co., The, Pittsburgh Pa.

Scales, Tipple See Scales, Coal Tipple

Scales, Track

(Scales having platforms provided with standard gauge tracks for receiving and weighing cars. These scales are built either in the Pit pattern with underground mechanism or the Overhead Suspension Pattern with mechanism suspended on a steel frame structure.)

American Kron Scale Co. (Automatic Springless Dial Scales.), 430 E. 53rd St., New York. (Automatic Dial. All Types.) See Advt. Index, Page 7
Buffalo Scale Co., Inc., 1210 Niagara St., Buffalo, N. Y. . . See Advt. Index, Page 7
Buffalo Suspension Bearings for track scales allow free swing to the platform, reduce friction, absorb

(Continued on following page.)

"THE STANDARD"

Modern 150 and 200-Ton Railway Track Scale

is the most highly developed weighing machine on the market.

Scientifically designed with the correct underlying principles, and constructed of the highest grade of steel, it meets every requirement for an accurate and durable scale.

Recognized by railways, mining and industrial companies as the standard in scale construction, durability and accuracy.

Inquiries solicited. Our Engineering Department will be pleased to correspond with any company desiring to install a modern scale.

Send for Bulletin No. 9 and ask for complete information on "The Standard" Modern 150-Ton or 200-Ton Railway Track Scale. Scales for every purpose: Portables, dormants, freight house, mine, industrial, wagon and motor truck scales.

The Standard Scale & Supply Co.
1631 Liberty Avenue, Pittsburgh, Pa.

New York, 145 Chambers St.
Chicago, 163-171 N. May St.
Dallas, 3027 Elm St.
Philadelphia, 523 Arch St.
Cleveland, 1547 Columbus Rd.
Baltimore, 409 N. Gay St.

Slate, Crushed

Sheldon Slate Co., F. C., Granville, N. Y.
Stoso Laminated Slate Co., Chicago.
Vermont Mill Products Corp., Fair Haven, Vt.
Williams & Co., C. K., Easton, Pa.

Slate for Electrical Purposes

Auld & Conger Co., Cleveland, O.
Bangor Central Slate Co., Bangor, Pa.
Bangor Structural Slate Co., Bangor, Pa.
Blue Mountain Slate Co., Slatington, Pa.
Blue Valley Slate Mfg. Co., Slatington, Pa.
Clark & Finnigan, Fair Haven, Vt.
Glow & Sons, James E., 534-546 S. Franklin St., Chicago.....See Advt. Index, Page 7
Coulman & Westcott, Fair Haven, Vt
Crown Slate Co., The, Pen Argyl, Pa.
Davis Slate & Mfg. Co., Chicago, Ill.
Durlick, Keenan & Co., Fair Haven, Vt.
Excelsior Slate Co., Pen Argyl, Pa.
Fair Haven Mble. & Mnfctured Sl. Co., Fair Haven, Vt
Hinchey & Co., Patrick F., Hydeville, Vt.
Hydeville Slate Works, Hydeville, Vt.
Lehigh Struct. Slate Mfg. Co. (Inc.), Bangor, Pa.
McGratty & Sons, Brooklyn, N. Y.
McNamara Bros., Fair Haven, Vt.
Moyer & Co., J. S., Bangor, Pa.
New York Slate Works, New York.
North Bangor Slate Co., Bangor, Pa.
Old English Slate Quarries, Boston, Mass.
Pennsylvania Blackboard Co., Slatington, Pa.
Penna. Structural Slate Co., Easton, Pa.
Penrhyn Slate Co., Hydeville, Vt.
Portland-Monson Slate Co., Portland, Me.
Shenton, Thos. H., Slatedale, Pa.
Slatington Slate Co., Slatington, Pa.
Structural Slate Co., Pen Argyle, Pa.
Superior Slate Co., Inc., Bangor, Pa.
Unger Slate Co., The, Slatington, Pa.
Worcester Elec. & Mfg. Co., Worcester, Mass.

Slate for Plumbing Work

Blue Mountain Slate Co., Slatington, Pa.
Glow & Sons, James E., 534-546 S. Franklin St., Chicago...See Advt. Index, Page 7
Davis Slate & Mfg. Co., Chicago, Ill.
Durlick, Keenan & Co., Fair Haven, Vt.
East Bangor Consolidated Slate Co., E. Bangor, Pa.
Excelsior Slate Co., Pen Argyl, Pa.
Fair Haven Mar. & Marbleized Slate Co., Fair Haven, Vt.
Federal-Huber Company, Chicago.
Hahn, Granville, Walnutport, Pa.
Hill, Wm. G., New York
Hinchey & Co., Patrick F., Hydeville, Vt.
Keenan Struct. Slate Co. (Inc.), Bangor, Pa.
Kunze & Co., J. B., Philadelphia, Pa.
Lehigh Structural Slate Mfg. Co., Inc., Bangor, Pa.
Nelson Marble Co., N. O., Edwardsville, Ill.
Nelson Mfg. Co., N. O., St. Louis, Mo.
New York Slate Works, New York.
North Bangor Slate Co., Bangor, Pa.
Pennsylvania Blackboard Co., Slatington, Pa.
Pennsylvania Struct. Slate Co., Easton, Pa.
Phoenix Slate Co., Wind Gap, Pa.
Rutland Marble Mfg. Co., Inc., Brandon, Vt.
Slatington-Bangor Slate Syn. Slatington, Pa.
Slatington Slate Co., Slatington, Pa.
Structural Slate Co., Pen Argyl, Pa.
Superior Slate Co., Inc., Bangor, Pa.
Unger Slate Co., The, Slatington, Pa.
Williams Slate Company, Arvonia, Va.

Slate for Structural Work

Auld & Conger Co., Cleveland, O.
Bangor Central Slate Co., Bangor, Pa.
Blue Mountain Slate Co., Slatington, Pa.
Blue Valley Slate Mfg. Co., Slatington, Pa.
Glow & Sons, James E., 534-546 S. Franklin St., Chicago...See Advt. Index, Page 7
Davis Slate & Mfg. Co., Chicago, Ill.
East Bangor Consold. Sl. Co., E. Bangor, Pa.
Excelsior Slate Co., Pen Argyl, Pa.
Fair Haven Mar. & Marbleized Slate Co., Fair Haven, Vt.
Hahn, Granville, Walnutport, Pa.
Hinchey & Co., Patrick F., Hydeville, Vt.
Inlaid Slate Co., Pen Argyl, Pa.
Keenan Structural Slate Co., Bangor, Pa.
Nelson Marble Co., N. O., Edwardsville, Ill.
North Bangor Slate Co., Bangor, Pa.
Old English Slate Quarries, Boston, Mass.
Pennsylvania Blackboard Co., Slatington, Pa.
Pennsylvania Struct. Slate Co., Easton, Pa.
Slatington Slate Co., Slatington, Pa.
Structural Slate Co., Pen Argyl, Pa.
Superior Slate Co., Inc., Bangor, Pa.
Williams Slate Company, Arvonia, Va.
Woodley Slate Company, Bangor, Pa.

Slats, Pencil, Red Cedar

Houston & Liggett, Lewisburg, Tenn.

Sled Soles, Cast Iron

Indiana Foundry Co., Inc., Indiana, Pa.

Quikwerk
Maintaining the highest standard in Railroad and Contractors Tools demands excellent steel and careful workmanship.
We guarantee both of these, and in addition, complete satisfaction
The Warren Tool & Forge Co.
153 Griswold St.
WARREN, OHIO.

Sledges See also Hammers and Sledges

(When used as a track tool, the sledge is adapted for striking track chisels, for spacing ties, for removing ties, etc.)

Gladium Company, The, New York.
Griffin-Bassett, Inc., New York.
Hardsocg Co., Martin, Pittsburgh, Pa.
Heller Bros. Co., Newark, N. J.
Klein-Logan Co., The, Pittsburgh, Pa. .....See Advt. Index, Page 7
Plumb, (Inc.), Fayette R., Philadelphia, Pa.
Salem Tool Company, Salem, O.
Southern Hardware & Supply Co., St. Louis, Mo.....See Advt. Index Page 7
Standard Sup. & Hard. Co., Inc., New York
Stanley Works New Britain, Conn.
Verona Tool Works, Oliver Bldg., Pittsburgh, Pa.....See Advt. Index, Page 7
Warren Tool & Forge Co., The, 153 Griswold St., Warren, O.....See Page 7
Our hammers are press forged—a relatively slow process, yet one which insures the fiber of the steel and adds to its wearing quality. The steel structure is not broken in press forging, and when this method is coupled with careful tempering, the resulting tool is almost indestruc ...
Werwood Tool Co., Wheeling, W. Va...Page 7

Sleds and Sleighs, Horse Drawn

Walton Foundry Company, Walton, N. Y.
Most complete line of one horse and two-horse Bob Sleds and Sleighs manufactured.

Sleds, Coasting

Auto-Wheel Coaster Co., Inc., North Tonawanda, N. Y.

Sleds, Stone

Lakewood Engineering Co., The, Cleveland, Ohio.....See Advt. Index, Page 7

Sleeves See Potheads and Sleeves

Sleeves, Clutch

Bossert Corporation, The, Linden St., and West Ave., Utica, N. Y.....See Page 7
Dodge Sales & Engineering Co., Mishawaka, Ind.
Jones Foundry & Machine Co., W. A., 4406 W. Roosevelt Rd., Chicago...See Page 7
Flamondon Mfg. Co., A., 5301 S. Western Blvd., Chicago...See Advt. Index, Page 7

High Speed Washing Machine

The "Winner"

(Note The Exceptionally Low Price)

$16.50 Each

The Winner High Speed Ball Bearing Washing Machine will give good service. By this we mean everything that the term "good service" implies. It washes clothes clean with little labor and will not run any heavier under a washing load than when empty, on account of the long leverage construction and the hardened ball bearings which insure a light running machine.

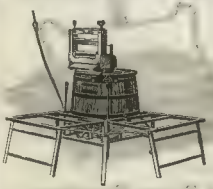
The Tub is made of everlasting Southern Cypress, which is especially adapted for making washing machine tubs, is assembled and bound in a substantial manner. The inside of the tub is corrugated, thus insuring more agitation to the water. The clothes are whirled through the sudsy water by means of a dolly or stool, and will wash clothes absolutely clean in a few minutes.

All Metal Working Parts are of steel and iron, treated with a special electro galvanizing process (not painted), thus preventing these parts from rusting.

Hardened Ball Bearings Insure Light Running

No. 25A2. Each 16.50

Electric Power Washing Machine



The "Winner"

Equipped with SWINGING WRINGER

Makes Washday a Pleasure

The Motor Does the Work

$65.50 Without Extensions

$69.00 With Extensions

The Winner Electric Power Washing Machine is a most successful machine built extra strong and every part will stand up under hard use. Every home that has electricity should have this wonderful washer. Washes and wrings the clothes perfectly. Costs but little to operate.

The Motor Does the Work. This washing machine is equipped with a powerful ½ horse power (fool proof) motor, which operates on either D. C. or A. C. 110 volts, which will not only operate the washing machine but the wringer as well, enabling operator to be wringing clothes at the same time the machine is washing another tub of clothes.

The Tub is made of everlasting Southern Cypress, a wood especially adapted for making washing machine tubs. The sides of the tub are corrugated and by the aid of the dolly swishing the clothes back and forth through the sudsy water your washing is clean in a few minutes. The tub is mounted on a strong angle iron stand, which is electro-galvanized, insuring it not rusting. The tub extensions fold neatly out of the way when not in use. Machine can be purchased with or without extensions.

The Wringer is of the reversing swing type, will swing into four different positions. Equipped with 11 inch rolls, guaranteed for five years.

These Prices Mean a Big Cash Saving for You

No. 25A4. Each, Without Extensions 65.50

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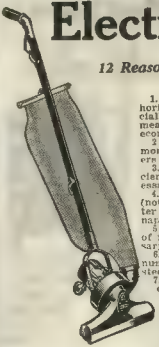
SHURE WINNER
THE PRICE LIST

Electric BEE-VAC Cleaner

12 Reasons Why the BEE-VAC is the Best Electric Cleaner You Can Sell Your Customer



1. Equipped with a BE-CO 1/8 H.P. horizontal motor, air cooled, made especially for Vacuum Cleaner use—this means greater efficiency, durability and economic current consumption.
2. It runs at 9,600 R.P.M., generating more powerful suction than other cleaners.
3. Adjusted at factory for most efficient work—no further adjustments necessary.
4. Reverse-revolving gear driven brush (not motor driven) gets all surface matter and clinging threads, but not the nap.
5. Hose directly connected to center of fan -no reducer or nozzle shoe necessary.
6. Entire casing made of cast aluminum—rust proof and more durable than steel.
7. Automatic oil feed makes frequent oiling unnecessary.
8. Six-blade one-piece cast aluminum fan—unbreakable.
9. Swivel rear wheel makes operation easier.
10. Safety-switch built in easy-to-grip handle is handier and positive.
11. Wheels inside nozzle—protected against breakage and permits thorough cleaning in corners.
12. The BEE-VAC is manufactured from start to finish in a factory by specialists with twelve years' experience in building Vacuum Cleaners and Vacuum Cleaner Motors—it is made with every thought for EFFICIENCY, SIMPLICITY and DURABILITY.

Your Cost—Cleaner . .	**$29.40**
Retail Price—Cleaner . .	**42.00**
Your Cost—Attachments	**7.00**
Retail Price—Attachments	**9.75**

BISSELS
Grand Rapids Carpet Sweeper

A popular priced Sweeper unexcelled in sweeping efficiency and a standard home item. Finished in mahoganized sycamore with Japanese fittings. Cyco ball bearings. Has No Mar Rubber corner cushions, best quality brush, etc., both pans dump at once. Weight complete, 7½ lbs.

Bissel advertising has educated millions of homes to greater sweeping efficiency and the demand for the famous "Grand Rapids" steadily continues. Stock a quantity of this popular utility item and put on display with your rugs, vacuum cleaners, etc.

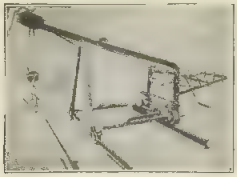
Packed ½ dozen in carton, handles packed separate	**Packed each in corrugated box,** handle packed separate
Per dozen..... **44.00**	Each **8.75**

Utility Grinder

No. 15C99. Miniature Grindstone and Household Sharpener. A household necessity wanted and needed daily in every home, equally useful for sharpening knives, scissors, as well as all kinds of implements that formerly required a large, bulky, cumbersome grindstone. Body is of strong metal, gear is cut from solid steel blanks. Each in a box.
Per dozen **12.00**

Any-Heat Water Regulator Attachment

No. 15C113. Any-Heat Faucet Coupling, which by turning your old single faucets inwards and fitting this attachment to them will give you a stream of whatever temperature water you wish. In other words, you obtain the same results as the mixer on the bathtub. An invention that is bound to become popular. Each..... **1.85**



Three-Men Rail Layer

Saves the difference between the number of men required to handle the tongs and the number required to operate the machine. In use on 100 different railroads in this country and abroad.

MAINTENANCE EQUIPMENT CO.

Railway Exchange **Chicago, Ill.**

Machines, Threading, Bolt

Acme Machinery Co., The, 4633 St. Clair Ave., N. E., Cleveland, O. . . . See Page 7
Blake & Johnson Co., Waterbury, Conn
Greenfield Tap & Die Corp., Greenfield, Mass.
Russell, Holbrook & Henderson, Inc., 20 Church St., New York . . . See Page 7
Byerson & Son, Jos. T., Chicago, New York, Buffalo, St. Louis, Detroit . . . See Page 7
Saunders Sons (Inc.), D., Yonkers, N. Y.
Standard Engrg Co., Ellwood City, Pa.
Waterbury Farrel Fdry. & Mach. Co., Waterbury, Conn.
Webster & Perks Tool Co., Springfield, O
Williams Tool Co., Erie, Pa.
Woodward, Wight & Co., Ltd., New Orleans, La.

Machines, Threading, Nipple

Landis Machine Co., Waynesboro, Pa.
Williams Tool Co., Erie, Pa.
Woodward, Wight & Co., Ltd., New Orleans, La.

Machines, Threading, Screw

International Machine & Screw Co., Springfield, Mass.
Manville Machine Co., B. J., Waterbury, Conn. (Rolled Thread)

Machines, Threading, Sheet Metal

Bliss Co., E. W., Brooklyn, N. Y.
Leffler & Co., Chas., Brooklyn, N. Y.
V. & O. Press Co., Glendale Sta., L. I. C., N. Y.

Machines, Threading, Staybolt

Acme Machinery Co., Cleveland, O.
Harrington Son & Co., Edwin, Philadelphia, Pa.
Modern Tool Co., Erie, Pa.
Byerson & Son, Jos. T., Chicago, New York, Buffalo, St. Louis, Detroit . . . See Page 7

Machines, Throwing

Atherton Machine Co., Fred L., Paterson, N. J
National Mill Supply Co., Paterson, N. J.
Scranton Silk Machine Co., Scranton, Pa.

Machines, Tiering, Portable

Link-Belt Co., Chicago and Philadelphia.
Revolator Co., Jersey City, N. J.

Machines, Tile, Concrete

Concrete Stone & Sand Co., Youngstown, O.

Machines, Tile, Drain

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Brewer & Co., H., Tecumseh, Mich.
Farmers Cement Tile Machine Co., St. Johns, Mich.
Fate-Root-Heath Co., The, Plymouth, O.
Freese & Co., E. M., Galion, O.
Hadfield-Penfield Steel Co., The, Bucyrus, O.
International Clay Machy. Co., Dayton, O.
Potts & Co., C. A., Indianapolis, Ind
Steele & Sons, J. C., Statesville, N. C.
Wilsea Works, The, Rochester, N. Y.

Machines, Tile, Roofing

Fate-Root-Heath Co., The, Plymouth, O.
International Clay Machy. Co., Dayton, O.

Machines, Time Recording

Cincinnati Time Recorder Co., The, 1733-43 Central Ave., Cincinnati, O. . See Page 7
Manufacturers of Automatic Time Recorders, Job Keepers and Shop Signal Devices for recording efficiency and keeping labor and costs down.
Hardinge Brothers, Inc., 4301 Ravenswood Ave., Chicago See Advt. Index, Page 7

Machines, Tinning

Colonial Engineering Co., The, Pittsburgh, Pa.

Machines, Tipping, Lace

Union Metal Goods Co., Pawtucket, R. I.

Machines, Tire Applying

Dunning & Boschert Press Co., Inc., 461 W. Water St., Syracuse . . . . . See Page 7
Hydraulic Press Mfg. Co., The, Mt. Gilead, O.
Nelson & LeMoon, Chicago.

Machines, Tire Making, Rubber

Throop Sons Co., John E., Trenton, N. J.

Machines, Tire Setting, Hydraulic

West Tire Setter Co., The, Rochester, N. Y.

Machines, Towing

American Engineering Co., Philadelphia, Pa.
Woodward, Wight & Co., Ltd., New Orleans, La.

Machines, Track Laying

Maintenance Equipment Co., The, Railway Exchange, Chicago. . . . . See Page 7
Three Man Rail Layer saves difference between number of men required for tongs gang and number required to operate this machine.
Roberts Bros., Chicago.

Machines, Trade Mark

Curtis & Marble Co., Worcester, Mass.
Parks & Woolson Co., Springfield, Vt.
Van Brunt & Co., Inc., J. A., New York.

Machines, Transfer, Saw Mill

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Link-Belt Co., Chicago and Philadelphia.

Machines, Treeing, Shoe

Miller Treeing Machine Co., O. A., Brockton, Mass.

Machines, Trenching See Ditchers, Various Classifications

Machines, Truing, Grinding Wheel

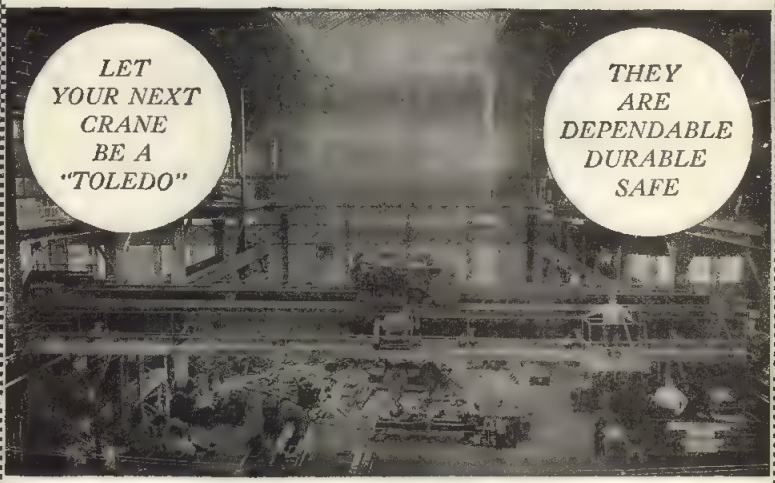
Dassau, Maurice S., New York
Precision Truing Machine & Tool Co., Cincinnati, O.

Machines, Truing, Journal

Cortes Supply Co., 737 Frisco Bldg., St. Louis, Mo. . . . . See Advt. Index, Page 7
Write us for particulars regarding our Journal Truing Machine. Will pay for itself within sixty days. In use on more than forty railroads.
Dunn Co., W. C., 832 W. 6th St., Cincinnati (Portable) . . . See Advt. Index, Page 7
See description under Lathes, Journal Truing

SEE ALSO MACHINERY, UNDER VARIOUS CLASSIFICATIONS

"TOLEDO" CRANES



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In practically every line of industry throughout the country where lifting problems are involved Toledo Cranes are represented.

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Get our estimates on your lifting needs. Write

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P&H cranes - hoists - monorail systems

Traveling Cranes (of standard and special types), Mill Type Traveling Electric Cranes, Open Hearth Charging Cranes, Grab Bucket Electric Cranes, Gantry Cranes, Traveling Electric Wall Jib Cranes, Pillar Jib Cranes, Extension Cranes, Transfer Cranes, Hand Operated Traveling Cranes.

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Horizontal Drilling and Boring Machines
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EST. 1884
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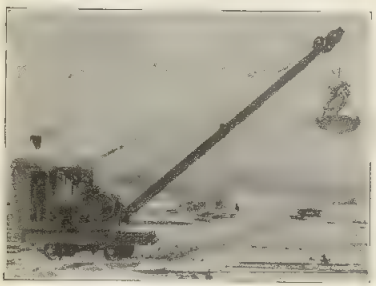
926 Whitney Central Building, New Orleans, La.
47 Fidelity Building, Pittsburgh, Pa.
1241 Monadnock Block, Chicago, Ill.
Yeon Bldg., Portland, Ore.
1125 Central Building, Los Angeles.
821 Monadnock Bldg., San Francisco
L. C. Smith Bldg., Seattle



40-ton "Buffalo" Locomotive Crane operating a ¾-cu. yd. Clamshell Bucket.

"Let a Buffalo Locomotive Crane Solve Your Material Rehandling Problems"

SAVES LABOR—INCREASES YOUR HANDLING FACILITIES—REDUCES MATERIAL HANDLING COST TO A MINIMUM

We Build Cranes for All Purposes

Buffalo Hoist & Derrick Co.

"Once a Buffalo Always a Buffalo"
129 Erie St.
BUFFALO, N. Y.

Cranes, Hydraulic

Alliance Machine Company, Alliance, O.
Chambersburg Engrg. Co., Chambersburg, Pa. . . . . See Advt. Index, Page 7
Ridgway, Craig & Son, Coatesville, Pa. (Steam.)
United Engrg & Fdry. Co., Pittsburgh, Pa.
Watson-Stillman Co., The, 1692 Hudson Terminal Bldg., New York. . . . . See Page 7

Cranes, Jib

(Crane with swinging arm or boom.)
Alliance Machine Company, Alliance, O.
Dow, Alex. (& Co., Philadelphia, Pa.
Brown Hoisting Machinery Co., The, 4403 St. Clair Ave., Cleveland, O See Page 7
Conley & Company, H. T., Meadville, Ill.
Detroit Hoist & Mach. Co., Detroit, Mich.
Dewey Supply Corporation, 18 W. 34th St., New York . . . See Advt. Index, Page 7
Granger Co., A. D., New York.
Industrial Works, Bay City, Mich.
Lakeside Bridge & Steel Co., 401 Willard Ave., North Milwaukee, Wis. . . See Page 7
Link-Belt Co., Chicago and Philadelphia.
Llewellyn Iron Works, Los Angeles, Cal.
Maris Bros., Philadelphia, Pa.
Morgan Engineering Co., Alliance, O.
Sidel-Henne Co. and Co., New York.
Northern Engineering Works, Detroit, Mich.
Pawling & Harnischfeger Co., Milwaukee, Wis. . . . . See Advt. Index, Page 7
Richards-Wilcox Mfg. Co., Aurora, Ill.
Scully-Jones & Co., 224 S. Michigan Ave., Chicago . . . . . See Advt. Index, Page 7
Shepard Electric Crane & Hoist Co., Montour Falls, N. Y. . . . . Page 3
Manufacturers of BALANCED DRIVE HOISTS AND CRANES, Capacities of 500 to 60,000 pounds.
Speidel, J. G., Reading, Pa See Page 7
Terry Mfg. Co., Inc., Grand Central Terminal, New York.
Whiting Corporation, Harvey, Ill See Page 7
Wright Mfg. Co., Lisbon, O.
Wright, David A., Chicago.

Cranes, Ladle

Alliance Machine Company, Alliance, O.
Brown Hoisting Mchy. Co., The, Cleveland, O.
Granger Co., A. D., New York.
Milwaukee Electric Crane & Mfg. Co., Inc., Milwaukee, Wis. . See Advt. Index, Page 7
Morgan Engineering Co., Alliance, O.
Northern Engineering Works, Detroit, Mich.
Pawling & Harnischfeger Co., Milwaukee, Wis. . . . . See Advt. Index, Page 7
Scully-Jones & Co., Chicago.
Toledo Crane Co., The, Bucyrus, O. See Page 7
Whiting Corporation, Harvey, Ill. . . See Page 7

More Than 30 Varied Industries

fundamentally necessary to present day American life have made profitable investments in Towmotors, and have expressed satisfaction or intimated their desire to standardize on

TOWMOTOR CLEVELAND
HAULAGE EQUIPMENT

The VALUE of TOWMOTOR endorsers is evidenced by the character of users of which the following are representative:

Chandler Motor Car Co.
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Peerless Motor Car Co.
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Henry Disston & Sons.
American Box Co.
American Dock Co.
Koehler & Co.
Cutler-Hammer Co.
Pouch Terminal Co.
Draper Mfg. Co.
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Globe Seamless Tube Co.
Ball Bros. Glass Mfg. Co.
The Mechanical Rubber Co.
The Henry Foundry Co.
Michigan Brass & Copper Co.
Taylor Instrument Co.
Ludlum Steel Co.
Harley Davidson Co.
Wallace Tractor Co.
American Steel & Wire Co.
Thew Shovel Co.
Lorain Castings Co.
The Youngstown Sheet & Tube Co.
American Clay Machinery Co.
J. I. Case T. M. Co.
Kurz Bros. Lumber Co.
Van Dorn Iron Works
Aluminum Company of America
Semet Solvay Co.
Furness-Withy & Co. Ltd.
Davis Co. Ltd.
Hongkong, China
Messrs. Ohg Sam Leong
Penang, F. M. S.
Mesman Schultz
Batavia, Java

The Towmotor is not a remodeled automobile but has been designed and built to unerringly meet the exacting requirements of industrial haulage.

Tractors, Industrial

Automatic Transportation Co., The, 2937 Main St., Buffalo, N. Y.
Owens Supply Co., St. Louis, Mo.
Cowan Truck Company, Holyoke, Mass.
See Advt. Index, Page 7
Dewey Supply Corporation, 18 W. 34th St., New York See Advt. Index, Page 7
Elwell-Parker Electric Co The, 4100 St. Clair Ave, Cleveland, O See Page 7
Equipment Corporation of America, Chicago, Ill.
Koenig & Co., Edward L., 23 W. Kinzie St., Chicago See Advt. Index, Page 7
Made for handling heavy duty.
Lakewood Engineering Co., The, Cleveland, Ohio See Advt. Index, Page 7
Lansing Company, The, 313 N Cedar St., Lansing, Mich (Electric) See Page 7
LANSING ELECTRIC INDUSTRIAL TRACTORS and LOAD CARRIERS are simple, powerful, flexible, durable, reliable and pleasing in appearance.
TRACTORS are built in two sizes, and LOAD CARRIERS in one size.
Mercury Manufacturing Co., 4118 S. Halsted St. Chicago.
Manufacturers offering in a line of types and models with a wide range of battery equipments making a special selection of a tractor exactly suited to the work required. Also a complete line of standard and special trailers for use with the tractors.
Towmotor Company, The, 1226 E. 152nd St., Cleveland, O See Advt. Index, Page 7
The Towmotor is an industrial tractor, driven by a gasoline engine, instead of the usual electric motor. It is designed and built for industrial haulage, to replace trucks and teams in factories, warehouses, railroad yards, docks, etc. It is used principally for moving freight between the railroad terminal and the factory, warehouse or dock, and within the factory, warehouse or dock. It is not suitable for use on the highways.
The Towmotor complete is a rugged, all steel machine of heavy gauge steel and the frame is of heavy angle iron.
The Towmotor is not a remodeled automobile, but has been designed and built to unerringly meet the exacting requirements of industrial haulage. It is a two-wheel tractor designed to move freight [illegible] over rough ground as well as smooth floors.
Transportation Engineering Corp., New York

Tractors, Kerosene

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Bull Tractor-Madison Motors Corp., Anderson, Ind.
Dayton-Dowd Co., Quincy, Ill.
Dewey Supply Corporation, 18 W. 34th St., New York See Advt. Index, Page 7
Electric Wheel Company, Quincy, Ill Page 7
Frick Co., Waynesboro, Pa.
Huber Mfg. Co., Marion, O.
Lauson Mfg. Co., The John, New Holstein, Wis.
Little Giant Co., Mankato, Minn.
Square Turn Tractor Co., Salina, Kan.
Towmotor Company, The, 1226 E 152nd St., Cleveland, O See Advt. Index, Page 7

Tractors, Road Building

Bull Dog Tractor Co., Fond Du Lac, Wis.
Dayton Dowd Co., Quincy, Ill
Dewey Supply Corporation, 18 W. 34th St., New York. See Advt. Index, Page 7
Electric Wheel Company, Quincy, Ill.

Lansing Electric Tractors
and
Load Carriers

LANSING ELECTRIC TRACTORS and LOAD CARRIERS are the ideal solution of Ware House and Industrial Plant transportation. They are designed to meet every demand that can reasonably be made of such equipment.

LANSING COMPANY

Lansing **Michigan**

Philadelphia Store	...Widow and N. American Sts.
New York Store	28-30 Van Dam St.
Chicago Store	1535 [illegible] State St.
Kansas City Store	417 Hudson & Tenth Sts.
Boston Store	78 Cambridge St.
Minneapolis Store	311 N. Third St.
San Francisco Store	288-378 Brannan St.
Detroit Store	45-49 Woodward Ave.

Whiting Turntable Tractor

WHITING

Turntable Tractors

for turntables of any capacity and pit rail radius, AC or DC. Built for heavy duty

Transfer Tables

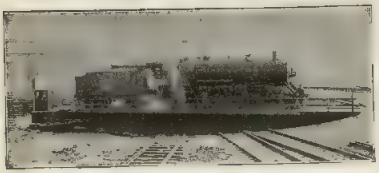
for locomotives and car shops. Any capacity, length or speed

Send for Railway Catalog No. 145

WHITING CORPORATION

Harvey, Ill. (Chicago Suburb)

Whiting Transfer Table



GEO. P. NICHOLS & BRO.

Designers and Builders of

Electric Tractors

Also Gasoline and Air

FACTS ABOUT THE NICHOLS TRACTOR

Has been the Standard for twenty years.
More than 700 in use.
More than 100 Railroads use them.
More than 115 are turning tables 100 ft. long and over.
Seven Railroads use respectively 78, 66, 35, 29, 28, 28, 23, Nichols Electric Turntable Tractors.
The first Electric Tractor put on the market.
The only Tractor that has been thoroughly standardized.
Our Extra Heavy Type Electric Tractor is the only one ever offered fully adequate to handling the modern long tables in bad order or heavily loaded and out of balance.
Our COMBINATION TRACTOR AND ENGINE HAUL solves many roundhouse problems.

WE ALSO BUILD THE NICHOLS ELECTRIC TRANSFER TABLE

Office and Factory: 2139 Fulton St., Chicago, Ill.

¶ Inquiries addressed to concerns shown in black-faced type will have special attention.

Tractors, Steam

Acme Road Machy. Co., Frankfort, N. Y. (Caterpiller)
Baker Company, A. D., Swanton, O.
Bates Machine Co., Joliet, Ill
Buffalo Pitts Co., Buffalo, N. Y.
Case Thresh'g Mach. Co., J. I., Racine, Wis.
Dewey Supply Corporation, 18 W. 34th St., New York.....See Advt. Index, Page 7
Huber Mfg. Co., Marion, O
Nichols & Shepard Co., Battle Creek, Mich.
Phoenix Mfg. Co., Eau Claire, Wis
Reading Engineering Co., Inc., 154 Nassau St., New York....See Advt. Index, Page 7

Tractors, Storage Battery

Automatic Transportation Co., The, 2937 Main St., Buffalo, N. Y.
Cowan Truck Company, Holyoke, Mass. ..... See Advt. Index, Page 7
Dewey Supply Corporation, 18 W. 34th St., New York ..... See Advt. Index, Page 7
Elwell-Parker Electric Co., The, 4100 St. Clair Ave., Cleveland, O ..... See Page 7
Koppel Industrial Car & Equipment Co., Koppel, Pa..... See Advt. Index, Page 7
Lakewood Engineering Co., The, Cleveland, Ohio ..... See Advt. Index, Page 7
Lansing Company, The, 313 N. Cedar St., Lansing, Mich....See Advt. Index, Page 7
Mercury Manufacturing Co., 4118 S. Halsted St., Chicago.
Transportation Engineering Corp., New York.

Tractors, Turntable

Detroit Hoist & Machine Co., Detroit, Mich. (Air and Electric.)
Draper Mfg. Co., Fort Huron, Mich. ..... Page 7
Used on any make or size of turntable. Attachments made to suit any table. Can be operated from either end of table. Air supply from either engine or shop plant.
Nichols & Bro., Geo. P., 2139 Fulton St., Chicago. (Electric)..... See Page 7
For nearly twenty years the name NICHOLS has been inseparably connected with all that was best in the development of appliances for operating railroad turntables by electric power. Our records and our files of drawings of turntable installations are the most complete in the country. We developed, and have to-day a quarter of a century's experience in, the single wheel tractor with a triangular or V-shaped structural steel frame. Motor and machinery are completely housed but entirely accessible for inspection and repairs. Every detail of our tractor is thoroughly standardized and all parts are carried in stock. This has made possible the wonderful service which we have been able to give our customers even through the strenuous war period. We can make almost immediate shipment of new tractors or maintenance parts. Three capacities of tractor are offered: the Standard, Intermediate and Extra Heavy Type, which may be counterweighted up to 11,000 lbs., 15,000 lbs. and 24,000 lbs. respectively, and with motors suited to the service expected. We have also developed several types of haulage equipment built into or separate from the tractor.
Whiting Corporation, Harvey, Ill. See Page 7
Young Manufacturing Co., E. W., 111 W. Monroe, St., Chicago. (Air, Gasoline and Electric.)
Special features in this tractor are the use of two traction wheels and flexible connection to turntable, preventing shock to the tractor from the vertical movement of the table, thus reducing maintenance cost. The two points of contact furnish greater adhesion to the rail. Practically all weight of tractor used for tractive effort, only a small portion being carried on the table. All parts standardized. Tractors in use for several years with practically no repairs, moving tables up to 120 ft. long, turning engines from 100 tons to 420 tons unbalanced loads.

Safe and Registering Banks, continued

T17782

T17782

T17784

Per doz.

T17782—TOY COMBINATION BANK—Made of cast iron nickel plated, steel sides and back; height 1¼ inches, width 2¾ inches, depth 2⅛ inches, ½ dozen in box 3.92

T17783—BANK—Combination lock solid iron aluminum finish, height 5 inches, width 3½ inches 6.00

T17784—BANK—Combination lock, embossed steel sides and back nickel plated, size 8¾x4¼x4 inches 8.75

Uncle Sam Register Banks

T18360

T18347

T18351

Each

T18351—NEW MODEL UNCLE SAM'S PENNY REGISTER BANK—Holds pennies only and will hold and register $1.00 in pennies; made of cold roll steel heavily black enameled; size 5⅞x3½x2 ..... 1.38

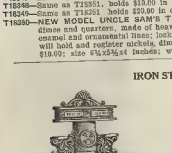
T18347—Same as T18351, holds $10.00 in nickels 1.38

T18348—Same as T18351, holds $10.00 in dimes 1.38

T18345—Same as T18351 holds $20.00 in quarters 1.38

T18360—NEW MODEL UNCLE SAM'S THREE-COIN BANK For nickels, dimes and quarters, made of heavy cold roll steel, finished in black enamel and ornamental brass; locks and unlocks automatically; bank will hold and register nickels, dimes and quarters to the amount of $10.00; size 6¼x5⅝x4 inches; weight 2¾ lbs 1.70

IRON STOVES

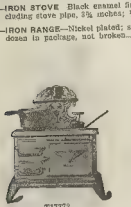

T17738

T17771

Per doz.

T17738—IRON STOVE Black enamel finish size 2½x3 inches, height, including stove pipe, 3⅜ inches; ½ dozen in box not broken 1.68

T17771—IRON RANGE—Nickel plated; size 3¼x3½ inches, with utensils; ½ dozen in package, not broken 2.16


T17772

T17739

Per doz.

T17772—IRON STOVE—Nickel plated; size 4½x2¾ inches, with utensils, ¼ dozen in box, not broken 4.00

T17739—IRON STOVE—Finished in black enamel; size 6x4¼ inches 4.16

Iron Stoves, continued

T17773

T17774

Per doz.

T17773—IRON STOVE—Nickel plated size 5¼x4 inches, with 3 utensils 6.25

T17774—IRON STOVE—Nickel plated size 7x4 inches, with 3 utensils 8.65

T17740

T17776

Per doz.

T17740—TOY STOVE—Finished in black enamel, has doors that open, a rear rocking grate and utensils; length 3 inches, height 4½ inches; each in box 11.50

T17776—IRON RANGE—Nickel plated, size 10x5¾ inches, with 3 utensils 14.75

T17775

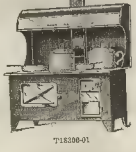
T17777

Each

T17775—IRON STOVE—Nickel plated; size 8½x6½ inches, with 3 utensils 1.04

T17777—EAGLE RANGE—Nickel plated, length 11½ inches, height 9¾ inches, width 6½ inches; complete with utensils 1.80

Tin Stoves, Black Enameled With Blue Enameled Fitting


T18300-01

Per doz.

T18300—TIN STOVES—Enameled in black and red, with 3 utensils; 3-8 dozen in box, not broken 2.00

T18301—Same as T18300, size 7x9¼ inches, with 4 utensils, 1-6 dozen in box, not broken 4.00

Sad Irons

T17786-87

Per doz.

T17786—TOY SAD IRON — Heavy, cast iron base, with cast iron handle, gilt finish; length 3 inches, 1 dozen in a box, not broken ..... .87

T17787—TOY SAD IRON Heavy cast iron base, polished; wood handle, length 3⅝ inches, ½ dozen in a box, not broken 1.92

T17788

Per doz.

T17788—TOY SAD IRON — Heavy cast iron base, polished, with removable wood handle; length 3⅝ inches, ½ dozen in a box, not broken 2.16

T17789—Same as T17785; length 4¾ inches, each in a box 4.16

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Miscellaneous Toys

Wash Day Outfits

T18088

T18085—WASH BOILER Made of white metal with cover ..... Per doz. 1 25

T17855

T17855—THREE-PIECE WASH SET Made of tin; set contains washboard, tub and boiler with cover..... Per doz. sets 3 62

T17856—FOUR-PIECE WASH SET—Made of blue enameled tin; set contains wash board, length 6 inches; tub, diameter 6 inches; wash boiler with cover, height 6 inches, and 6½-inch tin tea kettle..... 9 25

Washboard

T18149—WASHBOARD—Plated glass rubbing surface with strong wood frame; size 9¼x13½ inches ..... Per doz. 3 48

Wringer

T18180 TOY WRINGER—All metal parts aluminum finish; rubber rollers, width 6 inches ..... Per doz. 10 80

Wash Tub

T18148—WASH TUB—Blue enameled outside, white enameled inside, made of strong metal, height 8 inches, width 16 inches ..... Per doz. 8 04

Wash Day Outfits

T18181

T18181 FOUR PIECE LAUNDRY SET—Including enamel tub, diameter 16 inches, wash board, 12½ inches, height 15¾ inches, width 6¾ inches; folding cotton clothes dryer 18½ inches, height 15 inches and package of clothes pins ..... Each 1 08

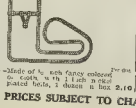
T18182

T18182—SIX PIECE LAUNDRY SET—Consists of enameled wash tub basket, wringer, wash board, revolving clothes dryer and stool as pictured ..... Each 2 16

T18172

T18172—WASH SET Consists of 4 pieces, wash tub and board, washboard and wringer ..... Per doz. 5 40

Toy Horse Reins



T17893

T17893—Made of black fancy colored leather with 1 inch nickel plated bells, 3 dozen in box ..... Per doz. 2 10

Coffee Grinder

T18141—TOY COFFEE MILL—Height 3¼ inches; ½ dozen in package ..... Per doz. 2 05

Flour Sifter

T18088—FLOUR SIFTER—Made of metal, will hold 1 cup of flour; size 3¼x4 inches; 1 dozen in box, not broken... Per doz. 1 28

Marble Toys

T18147—BIZZY ANDY TRIP HAMMER MARBLE TOY—Constructed of steel, lithographed in bright colors; operates with marbles. Height, 10½ inches ..... Per doz. 9 48

Sand Toys

T18144—DUMPING SANDY—Automatic sand toy. Operates on marble power by pushing the slide back and forth. Bucket can be filled with scoop at any point around the circle. Strongly made of steel, with can of white sand and cardboard tray. Height 13 inches, diameter of base, 7 inches, size of tray 15x18 inches ..... Per doz. 6 57

Sand Toys

T18142—SANDY ANDY—Has rights and lefts; Height 22 inches; diameter, 9x24 12½ inches, depth of tray 2½ inches; painted in bright red and blue, one can of white sand; small toy finish on a stick ..... Per doz. 6 52

T18143—Same as T18142, Height 9½ inches; height, 19 inches; depth of trough 2½ inches..... Each 1 08

Broom

T18102—TOY BROOM—Length 24 inches, sliding handle, 34 inches... Per doz. 1 56

Sand Toys

T18145—SAND CRANE—Automatic Wind Mill which comes with the toy is placed in the hopper. The crane remodeled, and by simply transferring the sand three times the hopper and turning in direction opposite the sand is delivered from the crane. Complete with sand and cardboard tray. Height, 14 inches; length in inches; size of tray 15x18 in..... Each 1 02

Marble Toy

T18146 — BOWLER ANDY MILL—Constructed of steel, operated with marbles which are supplied with toy, height 20 inches, end in bag. Each..... 1 33

Kaleidoscope

T17907—KALEIDOSCOPE — Pasteboard barrel, with metal ends, length 8¾ inches, 1 dozen in box, not broken..... Per doz. 1 92

Dancing Ball

T17908—DANCING BALL — Celluloid ball with new idea. When air is blown in paper ball will rise, and is kept..... Per doz. .75

Cem-Bac

T17904—CEM BAC—An improvement on toy balloon. When called on to Four or down it will come back on you. 1 dozen in box..... Per doz. .75

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

WHEEL TOYS

Popular sellers selected from the best offered by reliable manufacturers. You will find in our stock everything on wheels from the smallest toy wagon to the big wooden wagons as well as the latest styles in handcars and juvenile automobiles. Because of our enormous buying power we can offer you better values for the money. Our stocks are complete

"MARATHON" STEEL WAGONS

The great cut value in steel wagons on today's market. Larger, better in finish and construction they are representative of the great values which we have to offer

Beaded sheet steel bodies securely riveted joints, extra kiln dried tongue and grooved bottom boards, wooden cross on bottom boards, extra heavy indestructible fifth wheel the strongest part of all wagons, reinforced fe[illegible] rear gears to stay in proper handle drop re[illegible] bolts, slotted [illegible] bolt, axles [illegible] to [illegible] gear, [illegible] brace, [illegible] brace, natural hub wood tongue with steel [illegible] hand hold, gears and wheels be[illegible] black enamel [illegible] bodies [illegible] red [illegible] green inside gold stencil on [illegible] backed two coats [illegible] except [illegible] and Flush [illegible] parts inside in dustproof cutouts. Each guaranteed.

Our Factory No.	Size	Size of wheels	In Pkg. ½ doz.	Weight per Doz	Doz
F101	06	7½x11½	½ doz.		$ 9.00
F103	04	9x14	6 and 9 in	¼ "	72 lbs	#10.50
F105	02	11x22	8 " 10 "	½ "	95 "	#14.50
F107	1	15x26	10 " 13 "	¾ "	170 "	#20.75
F108	3	16x30	12 " 1[illegible] "	1 "	210 "	#25.00
F110	4	18x32	13 " 16 "	1¼ "	250 "	#30.00

F112—2 size assortments, including one each of F101, 103, 105, 107, 108, 110 running in size from 7½x11½ to 18x32. An excellent starter asst. Assid 6 in crate. #8.25

A857, (6 wagons).

"FLEET FOOT" WOOD COASTER

The supreme value in wood wagons. Nowhere can you equal this offer Their low price and attractive appearance makes them sell on sight

Selected hardwood bodies, natural varnish finish red trim, 4 strong cleats across bottom of bed, best kiln dried lumber, 10 in bright red wheels heavy malleable iron hubs, ¾x¾ tires reinforced with rib to steel axles, improved malleable iron steering gear, large 50in wheel, 3 steel braces & pivoting bolsters metal brake, removable bed. 3 runs.

With Plain Bearings—Malleable iron hubs, improved construction welded tires of heavy steel shrunk on

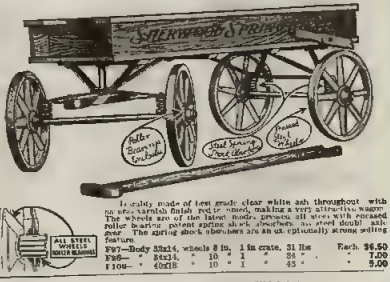
F83—Body 32x14,	Wt. 34 lbs.		Each, $6.25
F84— " 36x16	" 38 "		" 7.25
F79— " 40x18	" 42 "		" 8.25

With Ball Bearings—Reinforced hubs, self-contained ball-bearing cones, will not creep out

F85—Body 32x14	Wt. 34 lbs		Each, #5.25
F86— " 36x16	" 38 "		" #6.75
F88— " 40x18	" 42 "		" #8.25

"SHERWOOD" WOOD COASTER

With spring shock absorbers and roller bearings. The special construction feat. ures make these great favorites with the boys. Place your order now.



Lovably made of best grade clear white ash throughout with no odor, varnish finish red gear, making a very attractive wagon. The wheels are of the latest model, pressed all steel with encased roller bearing patent spring shock absorbers, no steel double axle bed. The spring shock absorbers are an ex. ceptionally strong selling feature.

F97—Body 32x14,	wheels 8 in,	1 in crate,	31 lbs	Each, $6.50
F96— " 34x14,	" 10 "	" 1 "	" 38 "	" 7.00
F100— " 40x18	" 10 "	" 1 "	" 45 "	" 9.00

"PEERLESS" STEEL WAGONS

Similar to the "Marathon" wagons shown on this page but heavier in construction. They are proved sellers that will bring you exceptionally good profits. ORDER.

Heavy steel sides, corrugated bands, blue enameled outside, red inside, strong steel braces and bolsters attached to body by bolts, improved fifth wheel and steel axles, nickel black enameled double spoke wheels with nickel hub caps, and steel tires, smooth bent hardwood handle with steel grip otherwise similar in description to the "Marathon" wagons shown above. ½ doz to pkg.

F116—Size, 13x26	Size of Wheels, 10 & 13 in.	Wt. 17 lbs.	Doz.	$27.00
F118— " 16x30	" " 12x16 "	" 20 "	"	32.00

"VICTORY" STEEL COASTER WAGON

F128—Body 18x26, 10x13 in wheels, strong durable steel body, coaster with wood gear, heavy steel sides, green enamel outside, red inside, strong bulletered oak wood, tapered bounded heavy steel axles, double spoke steel wheels with turned hubs, nickeled caps, strong wood handle D grip set in extension coaster handle gear 1 in crate, 40 lbs Each $2.80

EXTRA 10 IN. WHEELS FOR COASTER WAGONS

Plain Bearing—Extra heavy 1 in. axle hubs, runs 4x4½ in. bent rock elm tires 9x¾ wrought steel, welded and shrunk on, tripled, painted bright red, fit F95 and F96 and all coaster wagons with ½ in axles

F1457—1 in pkg. Each 48c

Ball-Bearing—(Self-contained ball), cannot be lost, spokes mortised into felloes Other specifications as F457 Fits F95 and F96 and all coaster wagons with ½ in. axles.

F1465—1 in pkg. Each 60c

"CASH AND CARRY" WOOD EXPRESS WAGON

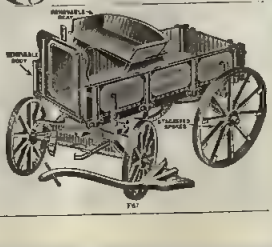
F75—Body 17x34, depth 8¼ in., varnished natural wood, red trim, black name stencil, removable side boards and dash, wheels 10 and 14 in. shaved spokes, 2x¾ flat welded tire shrunk on, round steel axles, coaster handle gear, body and gear painted bright red with black striping. Equally good as a play or utility wagon. 1 in crate, 60 lbs Each $6.25

MINIATURE WOOD FARM WAGON

F67—Body 18x36 in., hardwood frame seat and dashboard removable ornamented sides and ends, [illegible] and 20 in., heavy steel [illegible] malleable iron hub caps and [illegible] strong [illegible] and braced ½ in. Round [illegible] steel axles, [illegible] Each, $9.00

GOAT OR DOG SHAFT

F76—For F67 farm wagon length 46 in. width 17 in. red red black striped 1 in pkg. 6 lbs. Each, $1.20

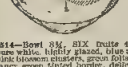


F67

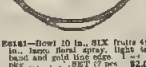
7 PC. IMPORTED CHINA BERRY SETS

E5814—Bowl 8¼ in., SIX fruits 4¾ in., pure white, highly glazed, blue and pink blossom clusters, green foliage, fancy green tinted border, delicate green hairline edge. 2 sets in pkg. (Total 12 pcs.) SET (7 pcs.), $1.25

E5815—Bowl 10 in., SIX fruits 4¾ in., large floral spray, light tan band and gold line edge. 1 set in pkg. . . . SET (7 pcs. $2.00

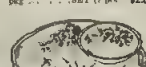


E5816—Bowl 8¼ in., SIX fruits 4¾ in., pink and red rose spray, dark green and gold line edge. 1 set in pkg. . . . SET (7 pcs.), $1.75



E5819—Bowl 10 in., SIX fruits 4¾ in., pink and red rose sprays, dark green and gold line edge. 1 set in pkg. . . . SET (7 pcs.), $2.10

E5518—9¼ in. deep open handled bowl, SIX 5 in. plates, fine grade of quality, light wt., pure white body, hand painted rose and foliage bouquets in border effect on pastel tinted ground and 2 lines in gold. SET (7 pcs.) $1.75



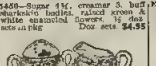
E5163—Bowl 10 in., SIX fruits 5¼ in. good pin to pure white highly glazed fine quality ware, floral design sprays, gold scroll outlined ivory band, gold edges. 1 set in pkg. SET (7 pcs.), $2.10

IMPORTED CHINA WHIPPED CREAM SET

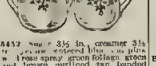
E5505—2 decors., footed bowl diam. 6½ in., plate 8½ inche 4¾ in., good quality, light wt., pure white, pink and blue rose and blossom cluster on brown outlined ivory band gold edges. Asstd. 1 doz. sets in pkg. Doz. sets $5.50

IMPORTED CHINA SUGAR AND CREAM SETS

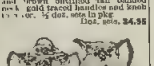
E5456—Sugar 4¼, creamer 3, buff shirred-on beaded, raised green & white enameled flowers, ½ doz. sets in pkg. Doz. sets $4.95



E5457—Sugar 3¼ in., creamer 3¼ in., green colored fine china body, pink rose spray green foliage green and brown outlined tan banded neck, gold traced handles and knobs. ½ doz. sets in pkg. Doz. sets, $4.95

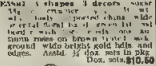


E5471—3 decors. sugar 3¾ pitcher 3½, pink & yellow rose clusters, shaded green and gold & green lines, gold handles and knobs, outer handles and covers. Asstd. ½ doz. sets in pkg. Doz. sets $5.25



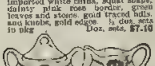
E5424 Creamer 3 in. sugar 3¼, round shape, pure white, highly glazed shaded pink rose & foliage spray, shaded flowers green & tan border ornamented edges. ½ doz. sets in pkg. Doz. sets $5.75

E5462—4 shapes 3 decors. sugar 3¼, creamer 3, pure white, all fancy shirred china body, floral band and gold line, floral and band wash of pink rose and green roses on brown twig, dark ground wide bright gold hdls. and edges. Asstd. ½ doz. sets in pkg. Doz. sets, $10.50



E5385—Sugar 3 in., creamer 2¾ in., imported white china, square shape, dainty pink rose border, green leaves and stems, gold traced hdls. and knobs, gold edges. ½ doz. sets in pkg. Doz. sets, $7.10

E5469—Sugar 3¼ in., creamer 3 in., pure white, highly glazed, indented panels, delicate rose and green floral sprays, gold hdls. and knobs, gold border and line around handles. ½ doz. sets in pkg. Doz. sets $8.40



E5463 2 shapes and decors., sugar 3¼, creamer 3 in., blue and pink shaded large open rose clusters, green leaves, white body, gold beaded band, gold or bronze outlined ivory band, gold edges and knobs. Asstd. ½ doz. sets in pkg. Doz. sets, $7.50

IMPORTED CHINA CHOCOLATE SETS

E5482—Pot 9 in., SIX cups 3½ in., saucers 5 in., chrysanthemum and foliage bouquet on wide ivory band, gold edges, striped handle spout and knob. 1 set in pkg. SET (7 pcs.), $2.40

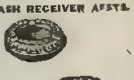
E5484—Pot 9 in., SIX cups 3½ in., saucers 5 in., in panel effect shape brown outlined pink and yellow spray of rose sprays, green and shaded brown outlined green foliage, brown outlined green bands, gold dec. fancy handle and knob on cover. 1 set in pkg. SET (7 pcs.) $2.50

JAP CHINA TEA POTS

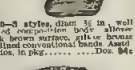
E7850—6¾ in., 5½ cup, 2 cups. Asstd. 1 doz. in pkg. . . . . Doz. $1.25

E7851—8¼ in., 8½ cup, 3½ cups. Asstd. ½ doz. in pkg. Doz. $1.50

IMPORTED CHINA ASH RECEIVER ASSTS.



E5780—3 styles, diam. 3½ in., well baked composition body, allover dark brown surface, gilt or bronze outlined conventional bands. Asstd. ½ doz. in pkg. . . . . Doz. 84c



E5781—6 styles, assorted shapes, well baked composition body, allover dk. brown surface, gilt or bronze outlined conventional bands. Asstd. ½ doz. in pkg. Doz. $1.25

9 PIECE IMPORTED CHINA TEA SET

E8186—Pot 4½ in., sugar 3½ in., creamer 3½ in., cup 3¼x2 in., saucer 5½ in., large rose spray, white enamel traced landscape design, light green enamel beaded edge, gold line handles, knob and spout. 1 set in pkg. . . . . SET (9 pcs.), ★3.10

E5479—Pot 9¼ in., SIX cups 2¾ in., saucers 5 in., fancy Japanese tea garden decoration, variegated colors, red edges, gold loops, red handles. 1 set in pkg. SET (7 pcs.), ★1.75

E5925—Pot 9¼ in., SIX cups 2¾x2¾, saucers 4¾, allover Japanese landscape cobalt design, gold edges, gold scrolls and dec., cobalt hdls. and knobs. 1 set in pkg. SET (7 pcs.), ★2.00

7 PC. IMPORTED CHINA CHOCOLATE SETS

E5482—Pot 9 in., SIX cups 3½ in., saucers 5 in., chrysanthemum and foliage bouquet on wide ivory band, gold edges, striped handle spout and knob. 1 set in pkg. SET (7 pcs.), $2.40

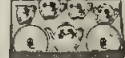
E5484—Pot 9 in., SIX cups 3½ in., saucers 5 in., in panel effect shape brown outlined pink and yellow spray of rose sprays, green and shaded brown outlined green foliage, brown outlined green bands, gold dec. fancy handle and knob on cover. 1 set in pkg. SET (7 pcs.) $2.50

TOY TEA SETS

Here you will find an exceptional variety of children's tea sets that can be sold in any store. The sizes range from 9 pieces up and the patterns are dainty and neat. Just the kind to delight the heart of any little Miss. It will pay you well to make a good display of this attention-getting, profit producing line. Good year 'round seller, too.

E5664—9 pcs., pink rose, green foliage, pink luster edges, gilt decorated box 8¼x6½, ½ doz. sets in pkg. Doz. sets, ★2.10

E5671—9 pcs., bright colored flora, cream cartoon borders, gilt decor. cups and hdls. box 11x8½. ½ doz. sets in pkg. . . . . Doz. sets, $5.25



E5673—9 pcs., gold dec. edges, hdls. and knobs of covers, blue and gold ribbon bows in cut out spaced boxes. ½ doz. sets in pkg. Doz. sets, $6.75

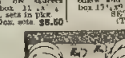
E5671 4 styles, 13 pcs., shaped and round trays, cream and brown cartoons on white, floliage clusters, centers of trays and cups, saucers and hdls., box 11 x 8. Asstd. ½ doz. sets in pkg. Doz. sets $5.50

E7607—23 pcs., 4 styles, bright pink floral bouquets, green foliage, gilt ornaments on blue and gray bands, edges and striped handles, box 17x13. sets in pkg. SET (23 pcs.), $1.10 (Total $2.20)

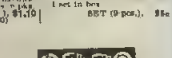
E5681—9 pcs., brown, terra cotta and black tinted bands, floral designs, edges and handles, box 8½x6½. 1 set in box SET (9 pcs.), $1.

E5683—18 pcs., 6 cups and saucers, 6 bread and butter plates, 6 cups and saucers, 1 bread board, 1 pink round tea pot, sugar and cream set, pink shaded floral cluster, gold striped box 13x12½. Each set inspected by SET (18 pcs.), $1.89

E5478 12 pcs. 6 cups 2x2 in., 6 saucers 4 in., tea pot 6 in. sugar 5¼ in., creamer 2¾ in., pure white body, fancy shape, heavily embossed. 1 set in box SET (17 pcs.), $1.75

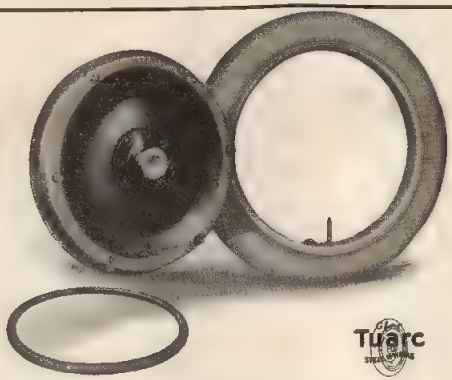


E5678—17 pcs., bright pink bands, gold dec. bdls., spout and knobs of covers, box 14x10½. 1 set in box. . . . . SET (17 pcs.), $1.75



E5685—13 pc., bright floral and leaf pictures, gilt sprays and bands, ½ doz. sets in pkg. SET (13 pcs.), $2.50

Items indicated by a ★ are regular page Bargains. To see all the month's wonderful Bargains—**Follow the Trail of the Stars!**



Definite Advantages for Car Makers and Users

Among engineers Gier Tuarc Steel Wheels have won favor because Tuarc design dovetails perfectly with the original design of the car. No other parts are affected in design or operation by the adoption of Tuarc Wheels.

This means that Tuarc Wheels fit easily into the production routine. Not a single special part is introduced. Even the stock tire carrier serves perfectly because Tuarc Wheels are equipped with regulation demountable rims.

The simplified tire changing is but one of the many practical advantages. The outside position of the tire-valves, the patented clamping ring, the strength and resiliency inherent in the beautiful two-arc design, win the *preference of car buyers* for Gier Tuarc Steel Wheels.

Organizations and individuals capable of handling the wholesale distribution of Gier Tuarc Wheels are invited to make application for exclusive territory assignment

MOTOR WHEEL CORPORATION, LANSING, MICH.

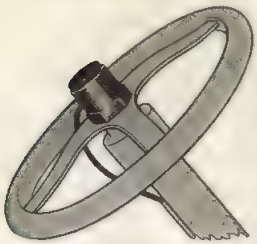
Motor Vehicle Wheels Complete Metal Stampings Steel Products

Motor Wheel PRODUCTS

Gier
Tuarc
STEEL WHEELS

EXCISE REVENUE TAX INCLUDED IN ALL PRICES ON THIS PAGE.

HORN PUSH BUTTONS.



"RED-E."

Threaded to screw on top of steering post, replacing the original steering wheel nut. Position of button is therefore in an accessible position the same as is becoming standard on all high priced cars. Net Each

NO. 18—For **FORD** Cars.....$2.00

Weight ¼ lb.

HORN BUTTON.

FOR **FORD** CARS.

The Horn Button on the **FORD** car is located at the front of the steering column where it is hard to reach and a more unhandy place would be hard to find.

The new Apco Button is attached to the throttle or gas lever, where it is under the driver's finger at all times, and the horn can be sounded easily and quickly even with heavy gloves on. It consists of the Button, Bracket and Wire ready to attach. To install, simply attach the Bracket to the lever, connect the Wire to the wire removed from the old button, wrap joint with tape and the job is done.

Net Each

NO. 9—Packed one Button in a box, ready to install.....$1.46

In lots of 10.....1.36

Weight 2 ounces each.

HORN BUTTON ATTACHMENT.

FOR **FORD** CARS.

Holds FORD Horn Button in Natural Position.

Of all the safety devices about an automobile, the horn is one of the most important. Driving on a crowded city street or boulevard it is in almost constant use. All **FORD** drivers agree that the **FORD** Horn Push Button is inconveniently placed. How awkward to reach through or around steering wheel to touch button Bul-Zi Nut will counteract this inconvenience and also prevent many accidents. It is designed to hold the button in center of steering wheel where it can be reached instantly. Net Per Dozen

NO. 69—Complete with wire and directions for installing.....$4.00

Weight 1½ lbs. per dozen

HUB ODOMETERS.

"VEEDER."

FOR **FORD** CARS.

The above cut shows the bolted-on type of hub odometer, which can be furnished for all models and is the only instrument that can be used on the late 1917 Model **FORDS.** This method of attaching is more secure than the sewed-on type. With each bolted-on type of instrument is furnished a separate ring. This ring should be slipped on the threads of all early 1917 and previous model cars, (those having threads about one inch long). For late 1917 cars (those having a short thread about ¾ inch long), the ring is not used.

This Odometer can be attached to either the right or left front hub. The left wheel is recommended because it is less apt to be struck by curb stones, posts, etc. The Veeder Hub Odometer registers the total mileage accurately, whether the car goes forward or backward. This prevents anyone from subtracting the mileage by running the wheel backward. Either type is arranged to be sealed on the hub, and cannot be removed without the owners' knowledge. There is no way to disconnect it by slipping gears and hence the odometer gives a true record of distance traveled. A Veeder Hub Odometer enables the owner to figure the exact number of miles per gallon of gasoline, as well as tire mileage.

Particularly valuable for Taxicabs. No shaft to break, or gears to become unmeshed. All parts are made very rugged, and those subjected to most wear are made of hardened steel

Net Each

NO. 1560—Black and Brass, bolted on type for all models of **FORD** Cars, registers in tenths of miles, to 100,000 miles, and repeats.....$23.60

NO. 1550—Black and Brass, screw-on type for early 1917 and all previous models of **FORD** Cars, measures in tenths of miles, to 100,000 miles and repeats.....23.60

Weight — lbs.

F. O. B. FACTORY.

DO YOU KNOW THAT

We carry a complete line of Walden-Worcester Special Auto Wrenches?

HUB ODOMETERS.

"VEEDER."

FOR ALL CARS.

The Veeder Hub Odometer, Form K, is a positive mileage recorder. It registers the distance traveled backward as well as forward. This prevents anyone from subtracting mileage by running the wheel backward. It is arranged to be sealed on to the hub, in place of the regular hub cap and cannot be taken off without the owner's knowledge. There is no way to disconnect it by slipping gears out of mesh. Hence, the Odometer gives a true record of the mileage.

There are five dials indicating miles and one dial indicating tenths of miles. This makes it possible to read to 100,000 miles by tenths of miles and it then repeats. The dials and interlocking gears are made of brass or bronze. The figures on the dials are of fused porcelain enamel. The studs upon which the dials revolve are made of German silver which will not rust or corrode. The eccentric shaft which transmits the motion from the inner-driving mechanism through the base plate to the recording mechanism is made of steel, hardened and polished. It is provided with bearings of brass or composition and surrounded by an adjustable stuffing box in which is placed packing of cotton wicking, thoroughly lubricated with oil. This constitutes a durable bearing which will not allow the passage of the black axle grease into the recording mechanism.

The exterior case of the Odometer proper is made of drawn brass and is very heavy, being ¼ inch in thickness. The driver which engages with the slotted end of the axle has a great range of action and allows for a large variation in the lengths of the axles. This will take care of a variation of ⅜ inch longer than standard or ¼ inch shorter than standard, or a total variation of ⅝ inch, and when closed requires only ⅛ inch space.

The crystal, about ⅛ inch thick, is fastened into the outer casing by a metal bezel forced in under pressure, making it absolutely water tight.

We furnish this type of instrument for use on any car or truck. In all cases it is furnished with the same mechanism in a duplicate of the hub cap used on the car for which it is ordered

Net Each

NO. 1760—Finished to match hub cap used on car.....$31.50

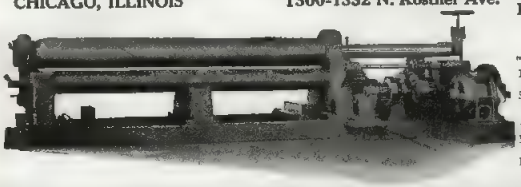
Be sure to state make, year and model of car on which instrument is to be used.

Weight — lbs.

F. O. B. FACTORY.

Kling Bros. Engineering Works

CHICAGO, ILLINOIS 1300-1332 N. Kostner Ave.



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PUNCH PRESSES, Single, Multiple and Double End Punches.
SHEARING AND COPING MACHINES, Rotary Splitting, Bar, Angle Plate and Gate Shears.
RADIAL WALL DRILLS.
BENDING ROLLS for Bending Plate, Structural Material and Rails
BENDING OF ANGLE IRON AND STRUCTURAL MATERIALS OUR SPECIALTY.

L. O. KOVEN & BROTHER

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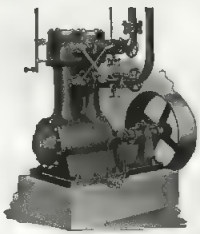
Galvanized Kitchen Range Boilers, Expansion Tanks, Hot Water Tanks, Filters, Mixing Tanks, Air Receivers, Gas Holders, Riveted Pipe for Water, Oil and Sewage, Smoke Stacks Milk Sterilizers, Digesters, Furnaces, Manifolds, Mufflers, Pasteurizers, Percolators, Gasoline Tanks, Sinks, Vulcanizers.

Heavy Sheet Metal Work of Every Description

NEW YORK OFFICE, 50 CLIFF STREET



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The Vilter Manufacturing Company

984 CLINTON ST. MILWAUKEE, WIS.

Builders of

Ice Making and Refrigerating Machinery

(From ½ ton up to 750 ton Daily Capacity)

Corliss and Poppet Valve Engines

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assure speed, efficiency and economy. If you have never investigated actual results obtained with them there is a surprise in store for you.

Single Hook Buckets for Foundries and Industrial Plants.
Double Line Buckets for Cranes, Derricks and other installations.
Standard Buckets in stock. **Special Buckets** on short notice.

"We Build Buckets for Every Service"

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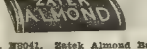
The G. H. WILLIAMS COMPANY, Erie, Pa.

EASTERN OFFICE: Room 317, 30 Church St., New York City

Package Candy. Prices Always Lowest

Prices Subject to Market Changes

ZATEK SOLID CHOCOLATE BARS



No. NS041. Zatek Almond Bar, sweet milk chocolate with almonds. Attractive wrapper; 24 bars in carton.
Per carton. 80

No. NS042. Zatek Sweet Milk Chocolate, solid bar of plain sweet chocolate. Attractive wrapper. Large size; 24 bars in carton.
Per carton. 80

No. NS043. Zatek "Eatmors" Chocolates, 6-inch tube filled with solid milk chocolate buds; 24 tubes in carton.
Per carton. 80

No. NS189. Brach's Almond Bar, made of rich chocolate, finely flavored, filled with large meats almonds, beautifully wrapped 24 bars in box. Per box. 80

No. NS105. Pecan Fudge Bar, a rich, creamy, popular fudge bar, filled with assorted pecans and beautifully wrapped. A big value 24 bars in box. Per box. . . .80

BIG BEN BAR

No. NS116. Big Ben Bar, 1¼ ounces. Marshmallow center with whole peanuts and chocolate covered. Big size long bars. Tin foil wrapped; 24 bars in carton.
Per carton. 90

ZOLO NUT BAR

No. NS120. Zolo Nut Bar, a big marshmallow bar, with rich maple base, heavily chocolate coated and filled with the finest grade nuts; 24 bars in box. Per box. . . .80

COCOANUT FUDGE BAR

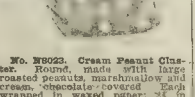
No. NS107. Cocoanut Fudge Bar, rich creamy fudge bar, filled with shreds of rich cocoanut, dust proof, wrapped and stays fresh 24 bars in box. Per box. 80

SPANISH PEANUT BARS

No. NS118. Spanish Peanut Bar, 1¼ ounce, with whole blanched peanuts. Pure and wholesome. Wax paper wrapped; 24 bars in carton. Per carton. . . .75

No. NS111. Chocolate Peanut Bar, made of sweet chocolate and whole peanuts, large bar. Wax paper wrapped, 24 bars in carton.
Per carton. 1.35

CREAM PEANUT ROUND BAR



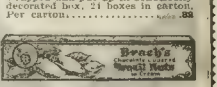
No. NS023. Cream Peanut Cluster. Round, made with large roasted peanuts, marshmallow and cream, chocolate covered. Each wrapped in waxed paper; 24 in box. Per box. 90

CANDY IN BOXES

No. NS103. Brach's Creamy Peppermint Patties, rich creamy centers, very thickly coated with a rich mellow chocolate. Two patties in a box; 24 boxes in carton.
Per carton. 80

No. NS024. Brach's Cherry Cream Bars, two luscious red cherries in cream, thickly coated with rich mellow chocolate. Beautifully packed box; 24 boxes in carton
Per carton. 90

No. NS014. Pineapple in Cream Bar, 1¼ ounce bar, with rich pineapple in cream, heavily chocolate coated. Each bar oil paper wrapped and put up in beautifully decorated box, 24 boxes in carton.
Per carton. 80



No. NS016. Pineapple in Cream. Creamy centers with pineapple, nicely coated with rich mellow chocolate, 6 pieces oil paper. Attractively lithographed box; 12 boxes in carton.
Per carton. 1.10

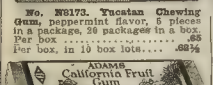
No. NS017. Brazil Nuts in Cream. A delicious center with cream and nuts, coated with chocolate 6 pieces in box. Each piece oil paper wrapped. Put up in beautifully lithographed colored box, 12 boxes in carton.
Per carton. 1.10

No. NS015. Cherries in Cream. Delicately coated with rich mellow chocolate 6 pieces oil paper wrapped, in attractively decorated box; 12 boxes in carton.
Per carton. 1.10

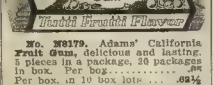
Popular Brands of Chewing Gum and Salted Peanuts

Prices of Merchandise on This Page are Subject to Market Conditions

No. N8173. Yucatan Chewing Gum, peppermint flavor, 5 pieces in a package, 20 packages in a box. Per box ..... .65
Per box, in 10 box lots..... .62½



No. N8179. Adams' California Fruit Gum, delicious and lasting. 5 pieces in a package, 20 packages in box. Per box..... .65
Per box, in 10 box lots..... .62½



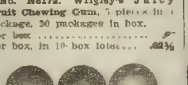
No. N8183. Beeman's Pepsin Chewing Gum, good for indigestion, 5 sticks in package, 20 packages in box. Per box..... .65
Per box, in 10 box lots..... .62½

No. N8194. Black Jack Chewing Gum, licorice flavor, each piece foil wrapped, 5 pieces in a package, 20 pieces in box.
Per box ..... .65
Per box, in 10 box lots..... .62½

No. N8170. Wrigley's Spearmint Gum. The perfect gum, the flavor lasts. 5 pieces in a package, 20 packages in box.
Per box ..... .65
Per box, in 10 box lots..... .62½

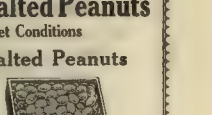
No. N8171. Wrigley's Double Mint Gum, strong peppermint flavor, 5 pieces in a package, 20 packages in box.
Per box ..... .65
Per box, in 10 box lots..... .62½

No. N8172. Wrigley's Juicy Fruit Chewing Gum, 5 pieces in a package, 20 packages in a box.
Per box ..... .65
Per box, in 10 box lots..... .62½



No. N8195. Quality Ball Chewing Gum, candy coated, sizes as regular, every one is round, no trouble in vending machines. Made of good materials, delicious flavor, lasting and pleasant to the taste. Comes in assorted flavors and colors. 100 in a box, 100 boxes in case. Per box..... .80
Per case 67.00

Salted Peanuts



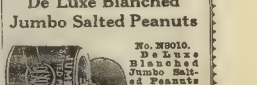
Salted Peanuts, absolutely fresh, always popular. Our prices enable you to make excellent profits; guaranteed clean, fresh goods.

no. N8181. 30 lb. Shure box.
Per box 3.00

No N8150. 10 lb box
Per box 1.25

No. N8013. Reliable Salted Peanuts, in glassene bags, 24 bags in box. Per box..... .78

De Luxe Blanched Jumbo Salted Peanuts



No. N8010. De Luxe Blanched Jumbo Salted Peanuts are selected from the best large peanuts, prepared by special process in a sanitary way, which retains their natural flavor. Packed in 5 lb. lithographed tin cans.
Per can..... 1.25

No. N8011. De Luxe Blanched Jumbo Salted Peanuts, same as above, packed in 5 lb. display box and 40 paper bags for peanuts.
Per box..... 1.20

Chewing Gum for Concessionnaires

No. N8174. Our Special Chewing Gum, A good reliable make in popular spearmint flavor. Packed 5 sticks in fancy lithographed wrapper without price label; packed 100 packages in a box. The sticks are full standard size, especially designed for cane rack and baby rack men. Per box..... .55

No. N8175. Chewmore Gum A pleasant and highly flavored article, put up 4 sticks in foil wrapped with neat printed label, full standard size sticks, 100 packages in box. For cane rack, baby rack, salesboards, etc. Per box..... .75

No. N8176. Shure's Spearmint Gum. Strictly high grade goods. Lasting flavor. Made of best material absolutely pure, pleasant and lasting chew, 5 pieces wrapped in moisture-proof paper with attractive wrapper 100 packages in box. Per box... 1.00

No. N8177. Meadowbrook Spearmint Chewing Gum, a fine quality, made of high grade material and lasting flavor. Each stick wrapped separately in moisture-proof paper and wrapper. 5 sticks in attractive package. 20 packages in a box. Per box ..... .30

The Harmony Musical Clock

A NEW DEPARTURE IN CLOCKS

The most beautiful and artistic design ever originated. It is not only an accurate timekeeper but also affords a great deal of pleasure, as the musical part can be played as desired, independent of the clock which need not be disturbed. It is also an ornament and will add charm and grace to any room in the home.

A great deal of time, thought and study have been expended to make this a decidedly novel, useful, ornamental and desirable article. It is sure to become exceedingly popular.

Patent Applied For.

No. 60W72. Harmony Musical Clock, solid metal case, gold finish, height 11 inches, width 5 inches. This clock was originated and designed by us and is a strictly high-class article. The workmanship is unexcelled and it is the only clock of its kind on the market. The two figures of cherubs in the upper panel are well proportioned in bas relief. The ribbon streamer is attached to a lyre occupying the upper center of case. Directly under the cherubs are life-like bust figures of Wagner and Beethoven, the great composers, between these is a sheet of music showing clef and notes. The oval border in center is neatly executed in a fancy scroll design. The lower half of case is an excellent design of trees and mountains, producing a beautiful scenic effect. The figure playing harp is in bas relief and perfect proportion. The movement is guaranteed American made, 32 hour time, 2½ inch dial easily read from a considerable distance.

Below the movement is fitted a well constructed music box which plays two different tunes. This is independent of clock and can be wound and played whenever desired, which is a very desirable feature.

The clock is certain to appeal strongly to all lovers of music, which means almost everybody. It is suitable for use in parlor, den, or living room, and is so artistic that it will harmonize with any color scheme or style of furniture. Each..... 5.00

CUCKOO CLOCKS

60W105

60W106

No. 60W105. Miniature Clock, height 6¾ inches, 2½ inch dial, carved and ornamented case of walnut wood, natural finish, winds by weights, brass works. A fine article for premium use. Each..... .70
Per dozen..... 7.50

No. 60W106. Miniature Clock, height 7¾ inches, 2½ inch dial, ivorized hands and figures, fancy carved bird and leaf design, fine walnut case, winds by weights. Each..... 1.25

60W115

No. 60W125. Cuckoo Clock, height 17⅛ inches, width 13 in., 4¾ inch dial, half hour strike with cuckoo, winds with weights, white ivorized hands and figures, fancy carved heavy walnut case and pendulum. The best buy in cuckoo clocks. Each..... 6.75

No. 60W77. Electric Alarm and Flash Light Clock, best utility clock made. It contains also money bank with combination lock and a search light operated from bulb on end of long cord may be extended to bedside, when pressed illuminates the dial. It has strong, loud alarm operated with dry cell battery, fitted with a guaranteed one-day American movement. It is of fine workmanship and very handsome appearance. Best in its line. Each..... 6.50

The Complete Line of

Walworth Pipe Tools

Boston Reversible, Hex and Parmelee Pipe Wrenches
Genuine Walworth Stillson Wrenches
Halls Pipe Cutters and Reamers
Klingfast Pipe Vises
Millers Ratchet Die Plates
Walworth Die Plates, Dies, Die Frames
Walworth Pipe Cutters, Taps and Reamers
Walworth Pipe Vises

Each Tool a Leader
Specify Walworth
Pipe Tools

Walworth Manufacturing Company **Boston, Mass.**

Oldest Continuous Manufacturers in the United States (Since 1842) of a Complete Line of Valves, Fittings and Tools for Steam, Water, Oil, Gas and Air. Originators of the Famous "GENUINE WALWORTH STILLSON" Wrench and the "KEWANEE" Union

BRANCHES: Boston Chicago New York Philadelphia Seattle
EXPORT SALES AGENTS: Walworth International Co., New York, U. S. A.
SALES OFFICES: Alexandria, Brussels, Buenos Aires, Calcutta, Caracas, Copenhagen, Havana, Johannesburg, London, Mexico City, Milan, Paris, Santiago de Chile, Sao Paulo, Shanghai, Surabaya, Sydney, Tokio, San Francisco, Cal.
EASTERN DIVISION Boston, Mass. WESTERN DIVISION Kewanee, Ill.

Walworth Company of Oregon, Portland, Ore.

Erie Tool Works, The, Erie, Pa.
Gladium Co., The, New York.
Greenfield Tap & Die Corp., Greenfield, Mass.
Griffin-Bassett, Inc., 242-244 Lafayette St., New York . . .See Advt. Index, Page 7
We specialize in this particular product. Let us bid on your requirements. Our Motto is SERVICE, NOT PROMISES.
Hansen & Yorke Co., Inc., 59 Warren St., New York . . . See Advt. Index, Page 7
Hawkeye Wrench Co., Marshalltown, Ia.
Hemphill Co., Inc., A. J., 161 Washington St., New York . . . . . See Advt. Index, Page 7
Illinois Malleable Iron Co., Chicago.
Kellogg-Mackay Co., The, 419 W. 13th St., Chicago.
Keystone Manufacturing Co., The, 50 Chandler St., Buffalo, N. Y. . . . . See Page 7
Landau, Inc., John A. (Die and Tool Hospital), 246 Canal St., New York.
Larco Wrench & Mfg. Corp., Chicago.
Mooney, Douglas & Pearson, 193 Greenwich St., New York. . .See Advt. Index, Page 7
We specialize in this particular line. Let us bid on your requirements. Prompt service rendered.
Moore Drop Forging Co., Springfield, Mass.
Robbins, Gamwell & Co., Pittsfield, Mass.
Sargent & Co., New Haven, Conn.
Standard Supply & Hardware Co., Inc., New Orleans, La. . . . . See Advt. Index, Page 7
Trimont Mfg. Co., Roxbury (Boston), Mass.
Van Vechten & Son, New York.
Wakefield, C. E., Worcester, Mass.
Walworth Mfg. Co., Boston, Mass. .See Page 7
Scientific heat treatment of high carbon drop forged tool steel used in the manufacture of Genuine Walworth Stillson wrenches produce wrenches of abnormal strength and toughness. Simplicity of design, there being but four simple parts, careful machine work insuring interchangeability and high est grade material throughout assure the user the utmost in value and satisfactory service. The several sizes of these wrenches will take squares or hexagons as well as rounds, ranging from ½ to 5" in diameter.
Walworth also makes the Walworth Parmelee Wrench that grips like the human hand and leaves no scar; the Walco Hex Adjustable Wrench that preserves hex nuts on bibbs, cocks, valves, etc., without scars; and the Boston Reversible (formerly the Gealy—remodeled), a thoroughly up-to-date chain tong.
Williams & Co., J. H., 62 Richards St., Brooklyn, N. Y. (Drop Forged) . . . . Page 7
With Flat Link or Cable Chains
Woodward Wright & Co., Ltd., New Orleans, La.
Worcester Pressed Steel Co., Worcester, Mass. (Stamped.) .See Advt. Index, Page 7

NO DEAD TIMBER

All concerns listed in MacRae's Blue Book were in actual business on January 1, 1921, manufacturing the products under which they are listed.

Wrenches, Pipe, Nickel and Polished Brass

Crane Company, 836 S. Michigan Ave., Chicago.....See Advt. Index, Page 7
Walworth Mfg. Co., Boston, Mass See Page 7
Walworth Parmese Wrenches are drop forged throughout, especially designed for brass pipe work, piston rods, etc. It is self ratcheting and will not mar finished surfaces. Regular grips fit pipe sizes from ⅛ to 8". Special grips can be furnished for odd sizes within this range.
Warnock Mfg. Co., Worcester, Mass.

Wrenches, Ratchet

Alert Tool Company, Philadelphia, Pa.
Dayton Pipe Coupling Co., Dayton, O
Houghton Mfg. Co., Worcester, Mass
Keystone Mfg. Co., Buffalo, N. Y.
Lane Unique Tool Co., Will E., 180 N. Dearborn St., Chicago.
Lowell Wrench Co., 54 Commercial St., Worcester Ave., Chicago See Page 7
Pratt & Whitney Company, Hartford, Conn.
Richards-Wilcox Mfg. Co., Aurora, Ill
Starrett Co., L. S., Athol, Mass.
Walden-Worcester, Inc., Worcester, Mass.

Wrenches, Reamer See Wrenches, Tap and Reamer

Wrenches, Reversible Ratchet

Alert Tool Company, Philadelphia, Pa
Frick & Lindsay Co., 119-121 Sandusky St., Pittsburgh, Pa. (Car).....See Page 7
The J. X. L. Safety Reversible Ratchet Car Wrench eliminates all danger in opening Hopper Car Doors Simple, Safe, Quick-Acting, Efficient. Nothing to foul or get out of order. Every working part always in sight. Adjusted to different sizes by liner attached to wrench.
Made of steel. Weight 19 pounds. Length of lever 34 inches, bent to clear braces on side of car
Strong, Simple, Safe
Lowell Wrench Co., 54 Commercial St., Worcester, Mass.....See Advt. Index, Page 7
This company has manufactured Reversible Ratchet Wrenches for over fifty years. We make and carry in stock a large variety of sizes, with handles ranging from 6 in. to 6 ft. in length, and fitting all U. S. Standard nuts from ¼ in. to 5 in., both square and hexagon in shape. Longer handles and larger sockets made to order. Will turn nuts on or off without removing the wrench. All of our wrenches are Reversible Ratchets and we stand back of these tools in every way, warranting them in all respects to give satisfaction.
Send for Catalogue C.

Wrenches, "S"

Armstrong Bros. Tool Co., 317-357 N. Francisco Ave., Chicago.....See Page 7
Berner Mfg. Co., Buffalo, N. Y.
Beck & Corbitt Iron Co., 1232-1244 Main St., St. Louis, Mo. See Advt. Index, Page 7
Bemis & Call Hdw. & Tool Co., Springfield, Mass.
Billings & Spencer Co., Hartford, Conn.
Boker Cutlery & Hdw. Co., New York
Bonney Vise & Tool Works, Allentown, Pa.
Buffalo Pressed Steel Co., Inc., Buffalo, N. Y.
Gillie Machine Co., Tonawanda, N. Y.
Gladwin Co., The, New York
Keystone Manufacturing Co., The, 50 Chandler St., Buffalo, N. Y. .....See Page 7
The Original Wrecott Adjustable "S" Wrench manufactured by The Keystone Manufacturing Co., Buffalo, N. Y., combines the ADJUSTABILITY of the Monkey Wrench with the ADAPTABILITY of that of the solid end Wrench, thus eliminating the necessity and excessive weight of a complete line of the latter, while retaining all their good qualities in tight corners. The hand holding the Wrench can at the same time manipulate the jaws to any desired size, a feature of no little value when working in a cramped space. These Wrenches have the ADJUSTABILITY of the Monkey Wrench, the ADAPTABILITY of the End and the DURABILITY that goes with "Keystone Quality" Tools.
Kilborn & Bishop Co., New Haven, Conn.
Klein-Logan Co., The, Pittsburgh, Pa.
Lakeside Forge Co., Erie, Pa. .....See Page 7
National Malleable Castings Co., The, Cleveland, O. ..... See Advt. Index, Page 7
Smith & Co., H. D., Plantsville, Conn.
Smith & Hemenway Co., Inc., New York.
Verona Tool Works, Pittsburgh, Pa.
Williams & Co., J. H., 62 Richards St., Brooklyn, N. Y. (Drop Forged).. Page 7
Worcester Pressed Steel Co., Worcester, Mass.

Wrenches, Screw

Armstrong Bros. Tool Co., 317-357 N. Francisco Ave., Chicago.....See Page 7
Athol Machine Co., Athol, Mass.
Bemis & Call Hdw. & Tool Co., Springfield, Mass.
Billings & Spencer Co., Hartford, Conn.
Bonney Vise & Tool Works, Allentown, Pa.
Coes Wrench Co., Worcester, Mass. .....Page 7
This concern has manufactured screw wrenches (monkey wrenches) on the original model patented by its founder, Loring Coes, since 1841. From its inception it has grown in 72 years to be the largest house in the world making screw wrenches exclusively.
The output is now well over a million per year, which means five complete wrenches each minute of the working day. Each wrench has 16 inspections before shipping.
There are sizes from 6 inches to 72 inches for every duty, and in styles for indoor and outdoor work, under trying conditions. Every wrench is fully guaranteed against imperfections of material or construction and this guaranty is lived up to.
Collins Co., Collinsville, Conn.
Dewey Supply Corporation, 18 W. 34th St., New York..... See Advt. Index, Page 7
Helwig Mfg. Co., St. Paul, Minn.
Lakeside Forge Co., Erie, Pa See Page 7
Lowell Wrench Co., Worcester, Mass
Meadville Wrench Co., Meadville, Pa.
Standard Supply & Hardware Co., Inc., New Orleans, La.
Trimont Mfg. Co., Roxbury (Boston), Mass.
Williams & Co., J. H., 62 Richards St., Brooklyn, N. Y. (Drop Forged)....Page 7

Wrenches, Screw, Lag

Drew Electric & Mfg. Co., Indianapolis, Ind.
Klein & Sons, Mathias, Canal Station 73, Chicago..... See Advt. Index, Page 7
Lowell Wrench Co., 54 Commercial St. Worcester, Mass. ... See Advt. Index, Page 7
Smith & Hemenway Co., Inc., New York.

Wrenches, Set Screw

Armstrong Bros. Tool Co., 317-357 N. Francisco Ave., Chicago..... See Page 7
Lakeside Forge Co., Erie, Pa.
Williams & Co., J. H., 62 Richards St., Brooklyn, N. Y. (Drop-Forged.)
Williams, William R., New York. **See Advt. Index, Page 7**

Wrenches, Socket

(Wrench with a cavity to fit and grip the nut.)
Allen Mfg. Co., The, 135 Sheldon St., Hartford, Conn. (Hollow Set Screw)...Page 7
Armstrong Bros. Tool Co., 317-357 N. Francisco Ave., Chicago.....See Page 7
Billings & Spencer Co., Hartford, Conn
Dewey Supply Corporation, 18 W. 34th St., New York..... See Advt. Index, Page 7
Dixon & Son, Chas. E., Pittsburgh, Pa.
Keystone Manufacturing Co., The, 50 Chandler St., Buffalo, N. Y. .....See Page 7
Lane Unique Tool Co., Will E., 180 N Dearborn St., Chicago.
Lowell Wrench Co., 54 Commercial St., Worcester, Mass. ...See Advt. Index, Page 7
Mossberg Co., Frank, Attleboro, Mass
Snap-On Wrench Co., Inc. Milwaukee, Wis.

SELECTOR

AMAZON TAPE

SUNBEAM MAZDA LAMPS

A NATIONAL ELECTRIC SERVICE FOR RAILROADS

Complete stocks of Railway Telephones and the Associated Selective Apparatus, Insulation, Line Material, Sunbeam Mazda Lamps, Interphones, Wiring, Devices, Switches and all

Western Electric QUALITY PRODUCTS

are carried in each of our forty-eight distributing houses.

With these forty-eight well stocked distributing houses the Western Electric Company is exceptionally well equipped to render a truly national electrical service for railroads.

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(INCORPORATED)
Offices in All Principal Cities

SAFETY SWITCH

INTER - PHONE

FLOOD LIGHT

PORTABLE UTILITY MOTOR

LINE MATERIAL

PORTABLE UTILITY LIGHT

WIRE

The Right Light in the Right Place

Elliptical Angle Reflector

Correct Light Reduces Accidents

BENJAMIN PRODUCTS

Some Benjamin Reflectors that increase the efficiency of your employees.

Write for a copy of general catalog No. 23 and latest information on industrial lighting.

Dome (R. L. M.) Reflector Socket

Heavy Duty R. R. Reflector Socket

Benjamin Electric Mfg. Co.

NEW YORK TORONTO CHICAGO SAN FRANCISCO LONDON

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Bowl Reflector Socket

Benjamin Electric Mfg. Co.

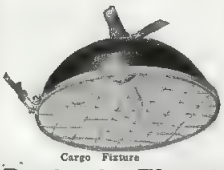
NEW YORK TORONTO CHICAGO SAN FRANCISCO LONDON

Lighting Fixtures for Outdoor Service

Railroad Crossing Fixture

Practical Lighting Units for Railroad use

BENJAMIN PRODUCTS



Cargo Fixture

Weatherproof Fixture

Benjamin Electric Mfg. Co.

NEW YORK TORONTO CHICAGO SAN FRANCISCO LONDON

Developments have made Benjamin-Starrett Panel Boards, Benjamin Industrial Signals, Benjamin Wiring Devices and other Benjamin products the approved standard among the country's best electrical engineers, distributors and architects.

Dead Front Panel Board

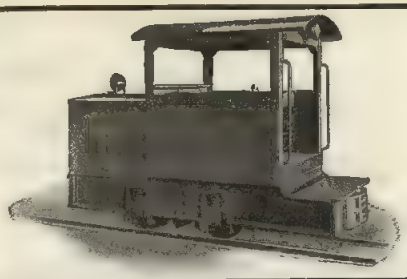
BENJAMIN PRODUCTS

Weatherproof Industrial Signal

Benco Weather-Proof Socket

Benjamin Electric Mfg. Co.

NEW YORK TORONTO CHICAGO SAN FRANCISCO LONDON



Whitcomb
Gasoline Locomotives

for

Road Building—Contracting
Mining and Industrial Purposes
2½ to 25 Tons—Weight.

Geo. D. Whitcomb Company
Rochelle, Illinois

General Electric Co., Schenectady, N. Y.
.....See Advt. Index, Page 7
Locomotives for heavy main line freight and passenger service, switching duty, and mine and industrial haulage. Storage battery locomotives can be furnished to operate also from a trolley if desired.
Koppel Industrial Car & Equipment Co., Koppel, Pa.
Mancha Storage Battery Locomotive Co., 1909 S. Kingshighway, St. Louis, Mo.
.....See Advt. Index, Page 7
Mancha's Electric Mule is constructed of steel castings and is sturdy, light and efficient. It is being used in many mines and is rapidly becoming synonymous with mine haulage in general. Where Mancha's Electric Mules are employed you get results. Cars move in and out like clock-work. Tracks last longer, accidents are reduced 50%, operating costs are reduced to a minimum and the production curve shoots upward
Morgan-Gardner Electric Co., Chicago.
Voltamp Electric Mfg. Co., Baltimore, Md.
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa .....See Advt. Index, Page 7
Whitcomb Company, Geo. D., Rochelle, Ill.
.....See Advt. Index, Page 7
Storage Battery Locomotives 2 to 7 tons weight on drive wheels.
Gasoline Locomotives, sizes 2½ to 20 tons weight on the drive wheels
Built in all gauges 18 in. to 56½ in., with cab for outside work, and low, or mining type, for mine operation.

Locomotives, Freight and Passenger

Porter Co., H. K., Union Bank Bldg., Pittsburgh, Pa .....See Advt. Index, Page 7
Builders of Locomotives, Light and Heavy, Narrow and Wide Gauges, Steam, Fireless and Two-Stage Compressed Air. Special attention to Export Trade.

Locomotives, Gasoline

Austin Machinery Corporation, 609 Railway Exchange, Chicago.....See Page 7
Bell Locomotive Works, Inc., New York.
Cummings Machine Co., The, Minster, O.
Dewey Supply Corporation, 18 W. 34th St., New York.....See Advt. Index, Page 7
Dunkle Co., Arthur J., New York
Fate-Root-Heath Co., The, Plymouth, O.
Ford Motor Co., Detroit, Mich
Hadfield-Penfield Steel Co., The, Bucyrus, O. (Industrial.)
Hubbard-Floyd Co., Inc., The, 1112 Grand Central Palace, New York. See Page 7
Lakewood Engineering Co., Cleveland, O.
.....See Advt. Index, Page 7
Milwaukee Locomotive Mfg. Co., Milwaukee, Wis.
Vulcan Iron Works, Wilkes-Barre, Pa.
Whitcomb Company, Geo. D., Rochelle, Ill.
.....See Advt. Index, Page 7
Gasoline Locomotives, sizes 2½ to 20 tons weight on the drive wheels.
Storage Battery Locomotives 2 to 7 tons weight on drive wheels
Built in all gauges 18 in. to 56½ in., with cab for outside work, and low, or mining type, for mine operation.

Locomotives, Geared

Carey, Geo. H., New York.
Climax Locomotive Co., Seattle, Wash.
Dunkle Co., Arthur J., New York
Heisler Locomotive Works, Erie, Pa.
Lima Locomotive Corp., Lima, O.
Mancha Storage Battery Locomotive Co., 1909 So. Kingshighway, St. Louis, Mo.
.....See Advt. Index, Page 7
Whitcomb Co., Geo. D., Rochelle, Ill See Page 7
Wilson & Company, E. H., Philadelphia, Pa.
Woodward, Wight & Co. Ltd., New Orleans, La.

GREATER PULL
ON THE
DRAW-BAR

Extra pounds and higher actual horsepower enable Austin Locomotives to carry heavier loads in shorter time with less repairs.

Sturdy Austin Batch Cars of wood and steel (bottom-dump and tip-over) complete the equipment.

Convincing specifications on request.
Catalog L-34

AUSTIN MACHINERY CORPORATION

General Offices: 609 Railway Exchange Bldg., Chicago

Locomotives, Industrial and Mine

American Locomotive Co., New York
Automatic Transportation Co., The, Buffalo, N. Y.
Baldwin Locomotive Co., Philadelphia, Pa.
Beck & Babb, 29 S. La Salle St., Chicago.
.....See Advt. Index, Page 7
Bell Locomotive Works, Inc., New York.
Carey, Geo. H., New York.
Dewey Supply Corporation, 18 W. 34th St., New York.....See Advt. Index, Page 7
Fate-Root-Heath Co., The, Plymouth, Ohio
Hadfield-Penfield Steel Co., The, Bucyrus, O. (Industrial Gasoline.)
Hubbard-Floyd Co., Inc., The, 1112 Grand Central Palace, New York.....See Page 7
Jeffrey Mfg. Co., Columbus, O.
Lima Locomotive Works, Lima, O.
Mancha Storage Battery Locomotive Co., 1909 So. Kingshighway, St. Louis, Mo.
.....See Advt. Index, Page 7
Aside from saving in supplies and labor, Mancha's Electric Mule soon pays for itself as a production booster. It puts pep and hustle into the whole force—keeps up the pace until the whistle blows. No trolleys, track bonding, or electric cable required.
Milwaukee Locomotive Mfg. Co., Milwaukee, Wis

(Continued on following page)

For Nearly a Century the Stove of Service.

WHITE MOUNTAIN ICE CREAM FREEZERS

HAND FREEZERS WITH CRANK

Fig 32776A

The beaters are malleable iron tinned Other features are the strong waterproof tubs, heavy cans, nicely galvanized castings and superior workmanship

Sizes, 1, 2, 3, 4 6, 8, 10, 12, 15, 20 and 25 quarts

HOTEL OR CONFECTIONERS' FREEZERS WITH FLY-WHEEL

Fig. 32776B

The larger size of the White Mountain Freezer is especially designed to meet the needs of hotels, cafes and ice cream parlors and will stand up under the strain of constant use. The balance fly-wheel saves time and labor in freezing

Fly-wheels can be had for the smaller size of freezers if desired

Made in 12, 15, 20 and 25-quart sizes.

PARTS FOR HAND FREEZERS

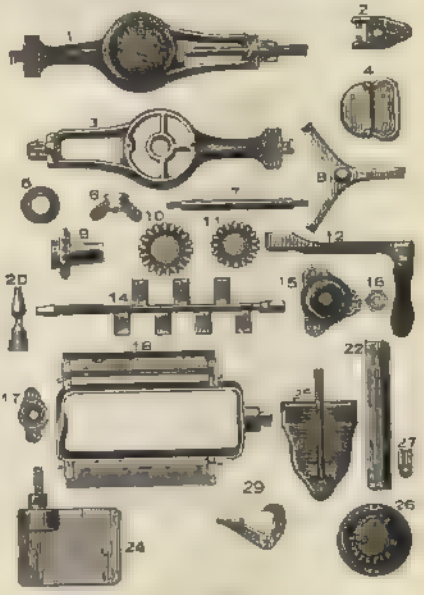


Fig. 32776C

No.	Description
1	Gear Frame, with Gears (1 to 10 qt.)
2	Small Ear (1 to 10 qt.)
3	Gear Frame, without Gears (1 to 10 qt.)
4	Tub Handle (10 to 25 qt.).
5	Ring for Cover of Can
6	Thumb Nut (12 to 25 qt.).
7	Shaft.
8	Can Socket
9	Shank Gear
10	Top Gear
11	Screw Gear
12	Crank
14	Inside Beater
15	Large Center (12 to 25 qt.).
16	Shaft Nut (12 to 25 qt.).
17	Small Center (1 to 10 qt.).
18	Outside Beater.
20	Spindle
22	Wood Scraper.
24	Large Ear (12 to 25 qt.)
25	Large Latch (12 to 25 qt.).
26	Gear Cap.
27	Wood Scraper Holder
29	Frame Latch (1 to 10 qt).

William's Superior Drop-Forged Wrenches

ARE carried in stock in 40 patterns, about 1,000 sizes, with openings 3/16 to 7⅝ inches; something *Standard* for every wrench need that can be standardized. They are furnished in small or large quantities, or in Sets, or mounted on "Silent Salesman" Boards.

Wrench Book on request.

J. H. Williams & Co.

"The Wrench People"

BROOKLYN 52 Richards St. | BUFFALO 62 Vulcan St. | CHICAGO 62 So. Clinton St.

ST. CATHARINES, ONT., CANADA

STRENGTH

Is a very essential quality in a wrench, but it does not depend entirely upon bulk or weight of metal.

The strength and long lasting qualities of ARMSTRONG wrenches are the results of skilled combination of best steel, expert design, accurate machining and heat treatment. All kinds and sizes. Specify ARMSTRONG when ordering and get the best. Write for free catalog.

Armstrong Bros. Tool Co.

"The Tool Holder People"

317-357 N. Francisco Ave., Chicago, U. S. A.

Wrenches, Drop Forged

Armstrong Bros. Tool Co., 317-357 N. Francisco Ave., Chicago ..... **See Page 7**
See Catalogue B-20.
Athol Machine Co., Athol, Mass.
Beck & Corbitt Iron Co., 1232-1244 Main St., St. Louis, Mo. ....**See Advt. Index, Page 7**
Billings & Spencer Co., Hartford, Conn.
Bonney Vise & Tool Works, Allentown, Pa.
Dewey Supply Corporation, 18 W. 34th St., New York ..... **See Advt. Index, Page 7**
Gladium Co., The, New York.
Griffin-Bassett, Inc., 242-244 Lafayette St., New York ..... **See Advt. Index, Page 7**
We specialize in this particular product. Let us bid on your requirements. Our Motto is SERVICE, NOT PROMISES.
Hansen & Yorke Co., Inc., 89 Warren St., New York ..... **See Advt. Index, Page 7**
Hawkeye Wrench Co., Marshalltown, Ia.
Indianapolis Drop Forging Co., Indianapolis, Ind.
Kilborn & Bishop Co., New Haven, Conn.
Lakeside Forge Co., Erie, Pa. ..... **See Page 7**
Larco Wrench & Mfg. Corp., Chicago.
Mooney, Douglas & Pearson, 193 Greenwich St., New York ..... **See Page 7**
We specialize in this particular line. Let us bid on your requirements. Prompt service rendered.
Moore Drop Forging Co., Springfield, Mass.
Southern Hardware & Supply Co., St. Louis, Mo. ..... **See Advt. Index, Page 7**
Standard Supply & Hardware Co., Inc., New Orleans, La.
Verona Tool Works, Pittsburgh, Pa.
Walton-Carlson Co., Ltd., St. Catharines, Ont., Can.
Walworth Mfg. Co., Boston, Mass.
Williams & Co., J. H., 62 Richards St., Brooklyn, N. Y. ..... **See Advt. Index, Page 7**
We make about 1,000 assorted sizes, in 40 patterns, of Standard Wrenches, with openings from ¼ inch to 7⅝ inches, accommodating every size of nut and screw.
We were the first to establish a uniform line of 15-degree angle wrenches, which has since been generally adopted.
Williams, William B., New York.
Woodward, Wight & Co., Ltd., New Orleans, La.

Wrenches, Engineers' and Machinists'

Alert Tool Company, Philadelphia, Pa.
Armstrong Bros. Tool Co., 317-357 N. Francisco Ave., Chicago ..... **See Page 7**
Beck & Corbitt Iron Co., 1232-1244 Main St., St. Louis, Mo. ....**See Advt. Index, Page 7**

All Kinds of Drop Forgings

Drop Forged Wrenches and Pliers

Send us prints for estimate

Prompt Service—High Grade Work

Reasonable Prices
Catalog on request

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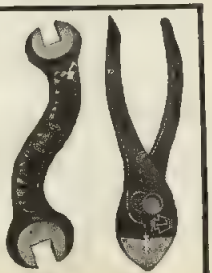
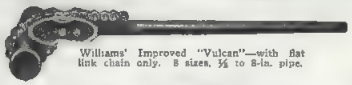
Erie, Pa.



See Opposite Page

WILLIAMS' SUPERIOR
DROP-FORGINGS AND DROP-FORGED TOOLS

Catalog Free



Williams' Improved "Vulcan"—with flat link chain only. 8 sizes, ⅜ to 8-in. pipe.

Williams' "Vulcan" old style Chain Pipe Wrench, with flat link or cable chain. 8 sizes, ⅜ to 18-in. pipe.

Williams' "Vulcan" Chain Pipe Vise. 3 sizes, ⅜ to 8-in. pipe.

Williams' "Falcon" Chain Pipe and Fittings Wrench with flat link or cable chain. 6 sizes, ⅜ to 12-in. pipe and fittings

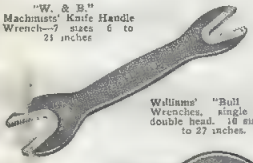
"W. & B." Machinists' Knife Handle Wrench—7 sizes 6 to 21 inches

Williams' Superior Wrench Sets are supplied in a great variety of assortments, each of which has been designed for a particular purpose. Ask for Wrench Set Book.

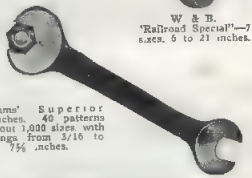
"Silent Salesman" C

Williams' "Silent" Salesman" Display Boards in all styles include in the minimum number of wrenches the greatest variety of popular sizes, with the fewest duplications of openings. Ask for booklet.

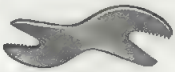
W & B. 'Railroad Special"—7 sizes, 6 to 21 inches.



Williams' "Bull Dog" Wrenches, single and double head. 16 sizes, 4 to 27 inches.



Williams' Superior Wrenches. 40 patterns in about 1,000 sizes with openings from 3/16 to 7⅝ inches.



Williams "Always Ready" Wrenches. 4 sizes, 5 to 11½ inches.

Straight Pattern

Offset Pattern

Socket Wrenches with Hex and Square Openings.

J. H. WILLIAMS & CO.
"The Wrench People"

BROOKLYN
62 Richards St.

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62 W. 120th St.

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Wilson Goggles for Protection Against Sun, Dust, Wind and Glare

A Large Assortment of Various Styles to Meet Your Wants

No. 201J9. Nickel Plated Steel Spectacles, with large round amber lenses 2 inches in diameter, white metal riding bows. Per dozen..... **1.95**

No. 201J10. Universal Goggles, with white metal frame and perforated metal side shields. Lenses 1⅝ inches in diameter. Each in a paper box. Per dozen..... **3.00**

No. 201J11. Shell Goggles, with round lenses, 1⅝ inches in diameter. Each Goggle packed in waxine envelope. Per dozen..... **4.00**

No. 201J13. Same as above, with larger size lenses, 1⅝ inches in diameter, and a better quality shell frame. Per dozen..... **4.75**

Goggles with Case

No. 201J12. Universal Goggles, with white metal frame and perforated, metal side shields. Lenses 1⅞ inches in diameter. Each goggle packed in metal case. Per dozen..... **4.25**

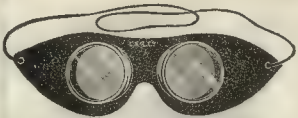
No. 201J14. Carded Assortment, holding twelve goggles, assorted styles, selling for 50c. Three with white metal cable temples, and three shell style riding bows. Assorted colored lenses, amber, green and smoke. One dozen to an easel card. Per dozen..... **3.65**

No. 201J15. Carded Assortment, high grade display card and Goggles, holding ten assorted style frames. White metal temples with shell, wire and leather side shields, retailing from 75c to $1.50 each. Costs you $5.95, sells for $11.25. Price of each goggle to be sold on the back of the card showing the resale price on same. Per assortment..... **5.95**

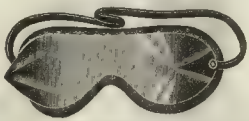
PATENTED AUG 7 1917

No. 201J16. Display Case Assortment, consists of thirty Goggles. Mahogany finish wood display case with glass top, ten various styles of metal and shell frames, some with flexible cables and shell bows, others with shell, leather and wire shield sides. 2½ dozen in show case 14x12¾x12⅝. Complete assortment, 2½ dozen..... **19.95**

Eye Protectors and Goggles

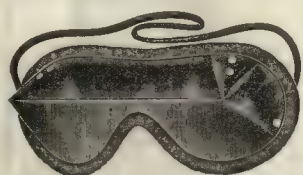


No. 48C25. French Dust Protector. Clear white 1½ lenses, in metal bound frame, with leatherette grain trimmings. Fits comfortably in cup shape to the eye. 3 dozen in box.
Per dozen..... .75

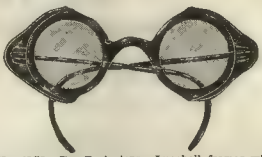


No. 48C11. Combination Eye Protector and Sun Shade. Made of amber colored celluloid, stitched brown felt binding, ventilation holes and elastic band; 1 dozen in box.
Per dozen..... .85

No. 48C1. Goggles. Imoshell frames, riding bow temples, shell with 1⅛-inch round mica lenses. A good light weight eye protector. 1 dozen in box.
Per dozen..... 1.05



No. 48C13. Combination Eye Protector and Sun Shade. Made of amber colored celluloid with green celluloid top shade, ventilation holes, stitched; felt binding and elastic band; very comfortable; 1 dozen in box.
Per dozen..... 1.75



No. 48C5. Eye Protectors. Imoshell frames with riding bow temples and large protectors on sides, assorted shell and amber color, 1⅝-inch glass lenses in amber color. An excellent goggle for motoring, boating. Each in box; 1 dozen in carton.
Per dozen..... 3.00

No. 48C26. Automobile Goggles. Made with ventilated aluminum frames, with bound edges, large 2¼-inch smoke lenses, with wide adjustable band, very finely made and a high grade article. Each in box; 1 dozen in package.
Per dozen..... 3.50

No. 48C27. Automobile Goggles. Clear white 2¼-inch lenses, set in ventilated nickel-plated metal frame, chenille bound. Complete with wide adjustable elastic band. Each in box; 1 dozen in package
Per dozen..... 6.00

EYE SHADE

No. 48C23. Eye Shade. Made of transparent green celluloid, ventilated top, cloth bound, with adjustable band. Easily made to fit perfectly; 1 dozen in box.
Per dozen..... .30

WILLSON GOGGLES

Style L31. The Willson All-Purpose Industrial Goggle. Approved by The Underwriters' Laboratories.

Style S11. For chipping and other extra-hazardous work. Approved by The Underwriters' Laboratories.

Style L1. For welding. Keeps out sparks. Approved by The Underwriters' Laboratories. The IN DUSTRO Lenses pass safety code requirements, Bureau of Standards test.

DUSTITE RESPIRATOR

For use in all poisonous and irritating dust, paint spraying and similar work. Does not leak in fitting contact or construction, nor interfere with vision. Dry filter used. Extra filters at trifling cost per hundred. Approved by The Underwriters' Laboratories.

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THE HARCO SAFETY GOGGLE
Frame Non-Metallic—Will not conduct heat or electricity.
Lenses clear and heavy enough to stand a severe blow
All parts interchangeable
A comfortably efficient and different kind of safety goggle.

Everything for Safety

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For Welders' Use

Our catalogue would be valuable to you.

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CHICAGO EYE SHIELD CO. - Dept. 37

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SUPPLY CORPORATION

We specialize in the best American Graders and Kindred Tools.

A Type for Every Purpose

Ask us about our Combined Grader and Scarifier.

Our Patrol Grader for Maintenance is built on the scientific light weight principal.

Dewey Supply Corporation

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Foster "VACUUM."—For controlling steam driven vacuum pumps.
Gardner Governor Co., The, McWilliamson St., Quincy, Ill. . . See Advt. Index, Page 7
Hydraulic Press Mfg. Co., Mt. Gilead, O.
Illinois Engineering Co., Racine Ave., at 21st St., Chicago. . . . . See Advt. Index, Page 7
Kieley & Mueller, New York
Kitts Mfg. Co., Oswego, N. Y.
Klipfel Mfg. Co., 2651 W. Harrison St., Chicago.
McAlear Mfg. Co., The, 1901 S. Western Ave., Chicago, . . See Advt. Index, Page 7
Mcdonough Automatic Regulator Co., Detroit, Mich
Mason Regulator Co Boston, Mass
Monash-Younker Co., Chicago
Parks Engineering Co., Philadelphia, Pa
Standard Steam Specialty Co., New York
Standard Supply & Hardware Co., Inc., New Orleans, La. . . See Advt. Index, Page 7
Staples & Pfeiffer, 102 Stewart St., San Fran cisco, Cal. (Oil Pump Regulating).
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Union Water Meter Co., Worcester, Mass.
Waters Governor Co., Boston, Mass.
Watts Regulator Co., Lawrence, Mass
Westinghouse Air Brake Co., Pittsburgh, Pa. . . . . See Advt. Index, Page 7
Westinghouse Traction Brake Co., Pittsburgh, Pa.
Woodward, Wight & Co., Ltd., New Orleans
Wright-Austin Co., Detroit, Mich.

Governors, Pump, Electric

(Device used with air brake equipment to open and close automatically the electric motor circuit of the motor-driven air compressor, when the air pressure in the reservoir rises above or falls below certain limits.)

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Mason Regulator Co., Boston, Mass
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa . . .See Advt. Index, Page 7
Westinghouse Traction Brake Co., Pittsburgh, Pa.

Governors, Pump, Turbine

Atlas Valve Company, Newark, N. J.
Foster Engineering Co., Newark, N. J.

Governors, Tank

Atlas Valve Company, Newark, N. J.
Chaplin-Fulton Mfg. Co., The, Pittsburgh, Pa.
Fisher Governor Co., The Marshalltown, Ia.
Kitts Steam Specialties Co., Oswego, N Y.
Mason Regulator Co., Boston, Mass.
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Hunt Machine Co., Rodney, Orange, Mass.
Lombard Governor Co., Ashland, Mass
Pelton Water Wheel Co., San Francisco, Cal.
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Grab Handles See Irons, Grab; see also Handles, Grab, Car Platform or Vestibule

Grader, Loader and Ditcher, Combined See Ditcher, Grader and Loader, Combined

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Hydraulic Press Mfg. Co., The, Mt. Gilead, Ohio.
Truscott Co., Inc., Fairport N Y.

Graders, Power

Dewey Supply Corporation, 18 W. 34th St., New York. . . . . See Advt. Index, Page 7
Koehring Co., The, Milwaukee, Wis. . . . . See Advt. Index, Page 7

The Koehring Rotary Grader digs to grade and elevates materials to wagons, trucks or cars. It has an easy capacity of 600 wagons per day on well-handled jobs, at 3 cents operating cost on two-yard wagons. Multiplane traction; cuts 5' 7" wide by one inch to two feet deep.

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Austin Manufacturing Co., 910 S. Michigan Ave., Chicago. . . . . See Advt. Index, Page 7
Bagley Grader Co., Tacoma, Wash.
Baker Mfg. Co., Springfield, Ill.
Coast Culvert & Flume Co., Portland Ore
Dewey Supply Corporation, 18 W. 34th St., New York . . . See Advt. Index, Page 7
Edwards Mfg. Co., C. D., Albert Lea, Minn.
Good Roads Machinery Co., Kennett Square Pa
Galion Iron Works & Mfg. Co., The, Galion, O.
Kilbourne & Jacobs Mfg. Co., Columbus, O
Little Giant Co., Mankato, Minn
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Road Supply & Metal Co., The, Topeka, Kans.
Russell Grader Mfg. Co., Minneapolis, Minn
Sherwin & Son, E. C., Brandon, Wis.
Smith & Sons Mfg. Co., Kansas City, Mo.
Spaulding Mfg. Co., Grinnell, Iowa
Stroud & Co., Omaha, Neb.
Western Wheeled Scraper Co., Aurora, Ill.

Graders, Track, Railway See Cars, Spreader; also Spreaders, Ballast

Grain Doors See Doors, Grain

Grain Door Lumber See Lumber, Grain Door

Granite, Crushed See also Stone, Crushed

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Guilford & Waltersville Granite Co., Baltimore, Md.
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Waushara Granite Quarries Co., Chicago.
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Booth Bros. & Hurricane Isle Granite Co., New York.
Harris Granite Quarries Company, The, Salisbury N C
Leopold & Co., J., New York
Lovejoy Granite Co., Milford, N. H.
New England Granite Works, Westerly, R. I.
Norcross Bros. Co., Worcester, Mass.
Webb Pink Granite Co., Milford, Mass.

Granite Producers, Red

Anderson Bros. & Johnson, Granite Heights, Wis
Booth Bros. & Hurricane Isle Granite Co., New York
Leopold & Co., J., New York.
New England Granite Works, Westerly, R. I.
Norcross Bros. Co., Worcester, Mass.
Smith Granite Co., Westerly, R. I.

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The Mo-lyb-den-um Car

THE Wills Sainte Claire Motor Car is manufactured for most experienced and discriminating motorists; it is built to provide a riding quality, an ease of handling and serviceability that have never before been realized in motor car construction.

The dealers selected have been truly representative of the car and the exacting clientele which purchases it.

Today, six months after the first Wills Sainte Claire was shipped from the factories at Marysville, the new car is accepted as the outstanding triumph of motor design and construction.

And even with an increasing monthly schedule of production, we are now considerably behind in filling the orders on hand. This is a striking endorsement, not only of the car, but of the faith and judgment of the field organization, which in the quality of its personnel sets a higher standard of dealer leadership.

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Marysville·Michigan

Models and Prices

Five-passenger Touring Car	*$2875*
Four-passenger Roadster	*2875*
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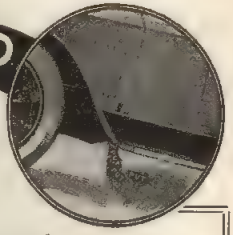
Sedan with two auxiliary seats	*4100*

Gives Your Auto More PEP



Why curb your motor's power. Use the Cooper Special Cut-Out. Its large valve opening relieves back pressure of muffler—frees motor of carbon—gives motor more power and quicker pick-up. Tells the motor's secrets. Detects missing spark plug, weak cylinder, or any impending motor trouble.

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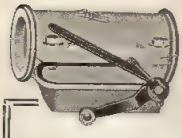

Popular with motor owners, a boon to dealers. Can be installed in a few minutes *without cutting exhaust pipe* in two. Outlasts the car. Will not rattle, squeak or chatter. Not affected by dirt, heat or carbon.

Sizes	With Pedal No. 3	With Pedal No. 4 or 5
1½ inch Ford Size	$3.00	$3.50
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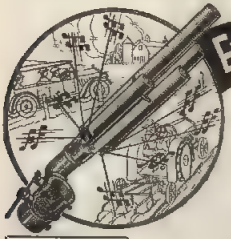
2, 2¼	4.00	4.50
2¼, 2⅜, 2½, 2⅝	4.50	5.00
2¾, 2⅞, 3	5.50	6.00

Special Screw Type for Buick Cars, Valve Only $3.00
With Pedal No. 3, $3.50, With Pedal No. 4 or 5, $4.00

If dealer can't supply you, write direct. Dealers ask your jobber

COOPER MFG. CO., Dept. T, Marshalltown, Iowa
THE FULTON CO., Sales Managers, Milwaukee, Wis.

Everywhere They're Buying It



Why are nearly half a million of these Aermore chime signal exhaust horns now in use? Because their melodious note pleases the ear—is welcomed instead of the honking discord—WINS the right of way with a smile. Owners are delighted with them. Dealers find them an easy-selling item, especially when equipped with our FREE stand for demonstrating the horn. Ask about it.

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Add 50c to prices, west of Rocky Mountains. All prices subject to liberal discount to dealer. Order direct if dealer cannot supply you. Dealers, ask your jobber.

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Dept. 10 **75th and National Ave., Milwaukee, Wis.**

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No. 0. 17 inch Aermore, complete for cars of 40 H.P. or over....$12.00

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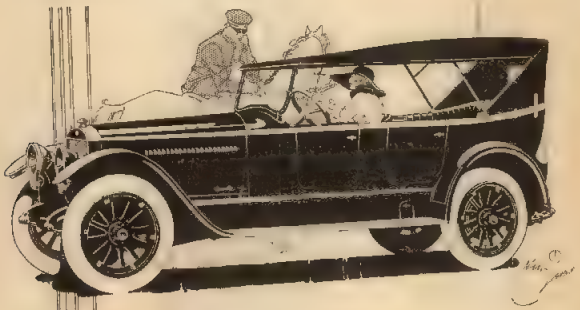
No. 2. 13 inch Aermore, complete for cars of 25 H.P. $9.00

No. 3. 11 inch Aermore, complete for Fords or other light cars..$8.00

WINTON SIX



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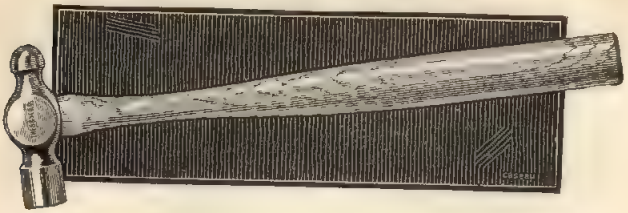
It will not take five minutes of your time for you to see for yourself that Winton Six excellence is crowned with an accessibility of working parts that nowadays is exceedingly rare. And accessibility means an actual money saving to the car owner. We'll gladly show you. May we send you literature?

The Winton Company

417 Berea Road

CLEVELAND, OHIO



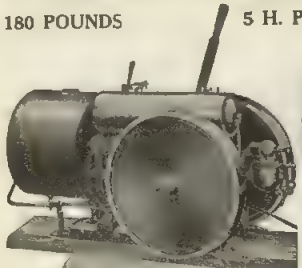
A HAMMER with an individuality—with a second-growth hickory handle, and a drop-forged head of special analysis steel, hung by mechanics—for the man who otherwise would make his own!

THE BILLINGS & SPENCER CO.
HARTFORD, CONN.

WOOLERY RAILWAY MOTOR CAR ENGINES

180 POUNDS

5 H. P.



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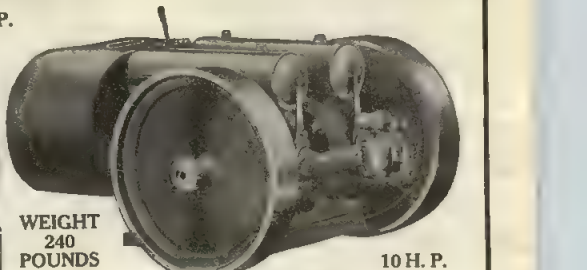

10 H. P.

HIGH GRADE LIGHT WEIGHT ENGINES DESIGNED EXPRESSLY FOR RAILWAY SERVICE

REVERSIBLE, without the addition of an extra part and without the loss of a power stroke. Unit speed control—throttles to suit all loads and speeds. Water cooled and frost proof.

STANDARDIZED design—repair parts interchangeable between single and twin cylinder models.

Power, Dependability and Efficiency established by 5 years' service in all climates and under varying conditions.

SAFETY FIRST—Light weight facilitates removal from track. Marine fly wheels prevent accidents.

5 H. P. for average Section work. 7½ H. P. for heavy Section work. 10 H. P. for Bridge Crews and 15 H. P. for big Extra Gangs.

Twin cylinder models are equipped with mechanical, adjustable-speed governors, adapting them for running sawing outfits, rail-laying machines, dapping machines and for driving air compressors and dynamos for operating pneumatic and electric hammers, tie tampers, painting outfits, etc.

Woolery Machine Co., 2901 to 3001 Como Ave., Minneapolis, Minn.

Cars, Motor, Section

Push cars for hand car, but pro... well as ... engine or motor driving the car.

Buda Company, The, 606 Railway Exchange, Chicago ..... **See Advt. Index, Page 7**

Free running, four ... two cylinder, air or water cooled motor, friction disc transmission.

Fairbanks, Morse & Co., 900 S. Wabash Ave., Chicago ..... **See Advt. Index, Page 7**

Fairmont Gas Engine & Railway Motor Car Co., 437 N. Main St., Fairmont, Minn. ..... **See Advt. Index, Page 7**

All capacities. Free running engine. Styles for every requirement. Start, brake and run without pushing. Run forward or backward. Reverse instantly. Never overheat. Easy starting and economical to operate. For description of motor, see "Engines, Hand Car"

International Harvester Company of America ...

Mudge & Company, 410 Railway Exchange, Chicago ..... **See Advt. Index, Page 7**

All Mudge section cars burn kerosene equally as well as ... Double cylinder motors, air cooled, two port, two cycle, each with ... three cranks, ... Each engine has independent carburetor and set of ... when load and grade permit ... when ... Motor is mounted on separate steel frame easily unbolted and removed from the car frame proper, which is sturdily constructed of ... thoroughly seasoned young ash. Mudge cars embody all the desirable safety features and, when desired, can be fitted with special safety railings and ... lights.

North American Engine Co., Algona, Ia. ..... **See Advt. Index, Page 7**

The Road Boss ... as the same ... the same ... the automobile ... success ... mobile ... fuel ... to speed ... the ... guarantees longer battery life. Is now enough and fast enough to meet every requirement—ranges from ... to ... at low speed without racing engine—weighs only 265 pounds completely equipped.

There is just as much ... in the performance of the Road Boss and other present day engines as there is between a ... every ... and ... ance protects your investment.

Railway Specialty Co., Atchison, Kan.

Simple Gas Engine Co., Menasha, Wis.

Southern Hardware & Supply Co., St. Louis, Mo. ..... **See Advt. Index, Page 7**

Woolery Machine Co., Minneapolis, Minn ..... **See Advt. Index, Page 7**

The economy of having a Motor Car for the Section crew is no longer doubted. The higher the cost of labor the greater the saving the Hand-propelled car makes. It is not a question between the Hand-propelled car and the Motor ... but rather a question of selecting a Motor ... that will stay on the job with the minimum of maintenance and always be ready to go when the crew is ready to move.

With a Fairbanks-Morse light kind of a Motor Car makes a bigger saving than with a Section crew. An Extra Gang of 60 men using Hand cars, will face the use of a Motor Car every few weeks, through loss of time and wasted energy getting to the job. The Motor Car enables them to get to the job quicker and stay later, besides saving man power for the productive work.

A Motor Car having a Free Running Engine is the only type to consider for Section, Extra Gang or Bridge Crew work. This type of car permits the operator to load on his tools and men, or the material he has to haul, and start the load with the engine instead of pushing car, load and ... to get the engine started. It eliminates the danger of injury by jumping on moving cars.

Cars, Motor, Track Construction

Motor car provided with power-driven tools for track work, such as ... lining bars, ... screw spikes, driving ... bars, ... etc.).

Buda Company, The, 606 Railway Exchange, Chicago ..... **See Advt. Index, Page 7**

Fairbanks, Morse & Co., 900 S. Wabash Ave., Chicago ..... **See Advt. Index, Page 7**

Fairmont Gas Engine & Railway Motor Car Co., 437 N. Main St., Fairmont, Minn. ..... **See Advt. Index, Page 7**

Mudge & Company, 410 Railway Exchange, Chicago ..... **See Advt. Index, Page 7**

North American Engine Co., Algona, Ia. ..... **See Advt. Index, Page 7**

Road Boss Economy and guarantee of operation ... described under Cars, Motor Section.

Railroad Water & Coal Handling Co., Chicago

Simple Gas Engine Co., Menasha, Wis.

Cars, Motor Velocipede See also Cars, Velocipede

Velocipede car, driven by a gasoline engine or motor.

Buda Company, The, 606 Railway Exchange, Chicago ..... **See Advt. Index, Page 7**

Fairbanks, Morse & Co., 900 S. Wabash Ave., Chicago ..... **See Advt. Index, Page 7**

Fairmont Gas Engine & Railway Motor Car Co., 437 N. Main St., Fairmont, Minn. ..... **See Advt. Index, Page 7**

Mudge & Company, 410 Railway Exchange, Chicago ..... **See Advt. Index, Page 7**

North American Engine Co, Algona, Ia. ..... **See Advt. Index, Page 7**

See description under Cars, Motor Section.

Simple Gas Engine Co., Menasha, Wis.

Southern Hardware & Supply Co., St. Louis, Mo. ..... **See Advt. Index, Page 7**

Standard Supply & Hardware Co., Inc., New Orleans, La.

Woodward, Wight & Co., Ltd., New Orleans, La.

Cars, Ore See Cars, Mine

Cars, Passenger Train, Steam Railway

Builders of wood, steel and composite superstructures of the various types of ... cars, which are baggage cars provided with wide side doors and an end door of nearly the width of the car, (2) Baggage cars, which are used for carrying passengers' baggage and express packages. (3) Buffet cars, which have buffets for passengers, (4) Caboose cars, which are passenger cars used in freight service, particularly by the train crews, (5) Dining cars, which are passenger cars for preparing and ... meals, (6) Express cars, ... used for carrying express packages with passenger trains; (7) Mail cars, which are ... for carrying mail and usually called ... cars, (8) ... cars, ... with ... for ... and ... (9) Parlor cars, ... for ... passengers and baggage, ... (10) ... cars, ... for ... passengers and baggage.

American Car & Foundry Co., St. Louis, Mo

American Car & Foundry Company, 165 Broadway, New York ..... **See Page 7**

Barnes & Nichols ...

Bradley Car Co., Osgood, Worcester, Mass. ..... **See Advt. Index, Page 7**

Brill Co., The J. G., 62nd St. and Woodland Ave., Philadelphia Pa ..... **See Page 7**

Carey, Geo. H., 1 Broadway, New York ..... **See Advt. Index, Page 7**

Chisholm & Company, Ltd., John P., Chicago.

Georgia Car & Locomotive Co., Ridge Ave. and Southern Ry., Atlanta, Ga. ..... **See Advt. Index, Page 7**

Hotchkiss, Blue & Co., Ltd., Chicago.

(Continued on following page)

Cars, Mill, Plate and Sheet

Atlas Car & Mfg. Company, The, Cleveland, O.
Cambria Steel Co., Philadelphia, Pa.
Hunt Co., Inc., C. W., W. New Brighton, N. Y.
Koppel Industrial Car & Equipment Co., Koppel, Pa. ..... See Advt. Index, Page 7
Lakewood Engineering Co., The, Cleveland, O. See Advt. Index, Page 7
Light Railway Equip. Co., Philadelphia, Pa.
Obenberger & Son Co., Jos., Milwaukee, Wis.
Pressed Steel Car Co., Pittsburgh, Pa. See Advt. Index, Page 7
Western Steel Car & Foundry Co., Pittsburgh, Pa.
Whiting Corporation, Harvey, Ill. See Page 7
Youngstown Steel Car Co., The, Niles, O. ..... See Advt. Index, Page 7

Cars, Mine

(Small cars for use in mines, usually four-wheeled cars provided with a dumping device.)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
American Bridge Co., New York.
American Car & Foundry Co., St. Louis, Mo.
American Car & Foundry Company, 165 Broadway, New York ..... See Page 7
Austin Machinery Corporation, 609 Railway Exchange, Chicago. ..... See Page 7
Beck & Babb, 28 S. La Salle St., Chicago. ..... See Advt. Index, Page 7
Cambria Steel Co., Philadelphia, Pa.
Connellsville Iron Wks., Connellsville, Pa.
Dewey Supply Corporation, 15 W. 34th St., New York. ..... See Advt. Index, Page 7
Duncan Fdry. & Mach. Works, Alton, Ill.
Engineering Wks., The, Van Buren, Ark.
Fulton-Kenova Mine Car Co., Canal Fulton, O., and Kenova, W. Va.
Gallagher Mchy. Co., Salt Lake City, Utah.
Gerlock, H. W., Huntingdon, Pa.
Gustafson Mfg. Co., Chattanooga, Tenn.
Haskell & Barker Car Co., Inc., Michigan City, Ind.
Helwick Fdry. & Mach. Co., Fairmont, W. Va.
Hockensmith Wheel & Mine Car Co., Penn Station, Pa.
Hubbard Floyd Co., Inc., The, New York.
Hunt Co., Inc., C. W., West New Brighton, N. Y.
International Car Co., 1304 First Nat'l Bank Bldg., Chicago See Advt. Index, Page 7
Irwin Foundry & Mine Car Co., Irwin, Pa.
Kilbourne & Jacobs Mfg. Co., Columbus, O.
Koppel Industrial Car & Equip. Co., Koppel, Pa.
Lakewood Engineering Co., The, Cleveland, O. ..... See Advt. Index, Page 7
Llewellyn Iron Works, Los Angeles, Cal.
Marion Machine, Foundry & Supply Co., Scottdale, Pa.
Mine & Smelter Supply Co., The, New York.
Mt. Vernon Car Mfg. Co., Mt. Vernon, Ill. ..... See Advt. Index, Page 7
Norton Car & Fdry. Co., Norton, Va.
Obenberger & Son Co., Jos., 125 Barclay St., Milwaukee, Wis. See Advt. Index, Page 7
Oliver Mfg. Co., Wm. J., Knoxville, Tenn.
Phoenix Iron Works Co., Meadville, Pa.
Pomeroy Machine Co., Pomeroy, O.
Pressed Steel Car Co., Pittsburgh, Pa. ..... See Advt. Index, Page 7
Railway Specialties Corp., New York.
Ramapo Iron Works, Hillburn, N. Y.
Sackett Screen & Chute Co., H. S., Chicago
Smith Hoe & Tool Co., John C., Evansville, Ind.
Southern Wheel Company, St. Louis, Mo. ..... See Advt. Index, Page 7
Star Mfg. Co., New Lexington, O.
Traylor Engineering & Mfg. Co., Allentown, Pa.
Truax Mfg. Co., Denver, Colo.
United Iron Works, Inc., Edge Arcade Bldg., Kansas City, Mo.
Watt Mining Car Wheel Co., Barnesville, O.
West Distributing Co., 168 Washington St., New York ..... See Advt. Index, Page 7
Western Steel Car & Foundry Co., Pittsburgh, Pa.
Worthington Pump and Machinery Corporation, 115 Broadway, New York. See Advt. Index, Page 7
Youngstown Steel Car Co., The, Niles, O. ..... See Advt. Index, Page 7

Cars, Mold Drying

Lakewood Engineering Co., The, Cleveland, O. See Advt. Index, Page 7
Obenberger & Son Co., Jos., 125 Barclay St., Milwaukee, Wis See Advt. Index, Page 7
Whiting Corporation, Harvey, Ill. See Page 7
Youngstown Steel Car Co., The, Niles, O. See Advt. Index, Page 7

Cars, Motor See Various Classifications

Cars, Motor, Bridge Gang

Fairmont Gas Engine & Railway Motor Car Co., 437 N. Main St., Fairmont, Minn. ..... See Advt. Index, Page 7

SAFETY ALWAYS

All Buda Motor Cars are equipped with four cycle engines—the only type of engine allowing a control of speed ranging from 3 to a maximum of 20 miles per hour.

Two cycle engines can be run at only a full open-throttle-speed of 30 to 35 miles per hour.

When an employee is injured or loses his life from an accident caused by the excessive speed of a motor car, the loss is not alone one of injury or life, which is deplorable, but also the elimination of an efficient and experienced man from a railroad organization which affects materially its efficiency.

THE BUDA COMPANY

NEW YORK CHICAGO ST. LOUIS
LONDON PARIS BUENOS AIRES

Cars, Motor, Electric, Street Railway Construction

Clark Car Company, Oliver Bldg., Pittsburgh, Pa ..... See Advt. Index, Page 7

Cars, Motor, Extra Gang

Fairmont Gas Engine & Railway Motor Car Co., 437 N. Main St., Fairmont, Minn. See Advt. Index, Page 7

Cars, Motor, Inspection

(Track car provided with seats and body, with or without a canopy top. It is driven by a gasoline engine or motor.)

Buda Company, The, 606 Railway Exchange, Chicago See Advt. Index, Page 7
Fairmont Gas Engine & Railway Motor Car Co., 437 N. Main St., Fairmont, Minn. ..... See Advt. Index, Page 7
Fairbanks, Morse & Co., 900 S. Wabash Ave., Chicago .See Advt. Index, Page 7
Mudge & Company, 410 Railway Exchange, Chicago ..... See Advt. Index, Page 7
The complete line of Mudge Motor Cars consists of nine models. Parts on practically all cars are interchangeable. Both kerosene and gasoline used for fuel. Each car is adapted to some special service or requirement. Please write our service department and car best suited to your needs will be recommended.
Nichols & Bro., Geo. P., 2138 Fulton St., Chicago ..... See Advt. Index, Page 7
North American Engine Co., Algona, Ia. ..... See Advt. Index, Page 7
The Road Boss is the last word in se . Car Engines. The only Reversible Type Automobile Engine ever offered the section car trade. For full particulars see description under Cars, Motor, Section.
Railway Specialty Co., Atchison, Kan.
Simple Gas Engine Co., Menasha, Wis.
Southern Hardware & Supply Co., St. Louis, Mo. .....See Advt. Index, Page 7
Woodward, Wight & Co., Ltd., New Orleans.

Cars, Motor, Interurban

(Passenger cars for handling local traffic. They are gasoline, gasoline-electric, or steam driven.)

Bowen Motor Railways Corp., St. Louis, Mo. (Gasoline.)
Chisholm & Company, Ltd., John E., Chicago.
Ford Motor Co., Detroit, Mich.
Jewett Car Co., Newark, O.
Laconia Car Co., Laconia, N. H.
Pressed Steel Car Co., Pittsburgh, Pa.. ..... See Advt. Index, Page 7
Wason Mfg Co. Springfield Mass

YALE ELECTRIC INDUSTRIAL TRUCKS

TYPE A-17 WITH CRANE

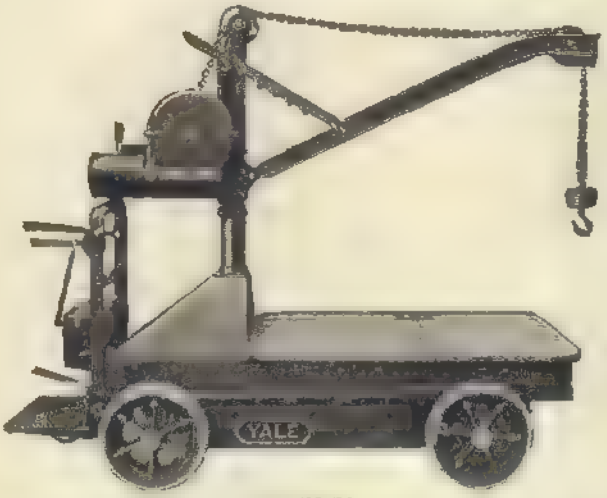

Fig 40517A

The combination of the Yale Electric Crane mounted on the Yale A-17 Truck, is intended for service, where material is to be raised or lowered vertically and then transferred horizontally, the work being accomplished by a single mechanical and electrical unit.

This truck has 2-wheel drive with 2-wheel steer, and a turning radius of 7½ feet at the center of the truck. It is particularly well adapted for interplant or yard service where heavy castings, structural shapes or bulky piled material must be handled safely and expeditiously. The boom may be easily rotated through an arc of 180 degrees. Operator has direct control of a 2-speed hoisting mechanism consisting of a motor, brake, controller, worm and gear and a grooved hoisting drum. Ratchet mechanism permits operator to spot the hoisting hook in any desired position and to raise or lower load and boom singly or simultaneously.

TYPE EP-60

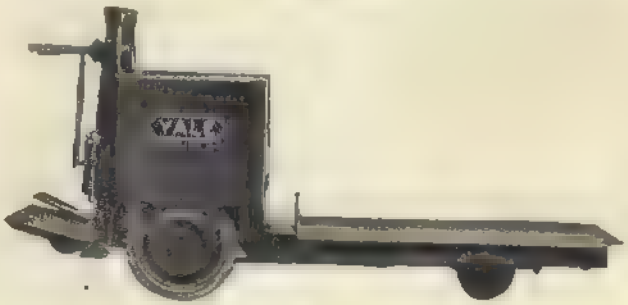

Fig. 40517B

A combination load lifting, transfer and unloading unit. The type to select where it is more convenient to use the present platforms during handling. For use in machine shops, steel mills, potteries, and manufacturing plants.

The portable platforms are constructed of either wood or pressed steel, 36 inches wide, 60 inches long, and 12 inches high, and are designed both with and without caster wheels. The loads for this class of service range from 2500 to 3000 pounds and the maximum load should not exceed 4000 pounds. The automatic circuit breaker prevents movement of truck unless operator is on the platform.

Full and complete descriptions will, prices will be forwarded upon application.

Write us Your Requirements for Goods Not Listed.

YANKEE VISES

No. 990

Fig. 33865A

No. 993

Fig. 33865B

Yankee Vises are made in two styles, with and without swivel base.

Without swivel base they can be used on bench, or on a bench drill or other small machines.

With swivel base, while used on the bench the vise proper can be quickly detached from base and without removing work from vise, can be used on bench drill, etc., and returned to base again.

No. 1993

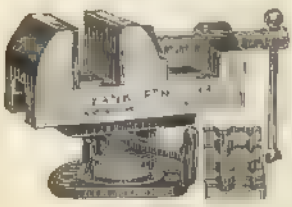

Fig. 33866C

This is a new feature in vises, and one that will be quickly appreciated by the best mechanics where work can be held rigidly in the vise and while so held be worked on by either hand or tools.

The vise proper has body and sliding jaw of cast iron with hardened steel faces. It swivels entirely around all over so it can be used on either side or end as well as on base in drill press, etc. A hardened steel block with V-shaped grooves is provided for holding round or irregular shaped work.

The upper part of swivel base has a taper part to receive corresponding end of vise proper, and with set screw in one end to force tapers into position, thus clamping vise and base perfectly rigid.

WITHOUT SWIVEL BASE

Number		990	991	992	993
Length Base	inches	6	3½	4½	7¼
Width "	"	2¾	1¾	2	2¾
Openings Jaws	"	¾	1¼	1½	3¼
Depth Jaws	"	1⅝	⅞	1	1⅞
Width "	"		1½	2	2¾
Height Over All	"	2	1½	2⅛	3
Price	each	4 80	4.20	5 50	10.00

*Three inch without swivel jaw, 2⅝ inch with swivel jaw.

WITH SWIVEL BASE

Number		1991	1992	1993
Length Base	inches	3⅝	4⅞	7¼
Width "	"	1½	2	2¾
Opening, Jaws	"	1	1⅝	3
Depth Jaws	"	¾	1	1⅞
Width "	"	1½	2	2¾
Height Over All		3⅛	4⅛	5¼
Diameter, Swivel Base		2	2½	4
Price	each	5 50	8 30	13 50

Write us Your Requirements for Goods Not Listed.

For Nearly a Century the Store of Service.

BROWN & SHARPE TOOLS

MILLING OR PLANING MACHINE VISES

PLAIN

Fig. 1779A

Designed for use on milling or planing machines. Jaws are of hardened steel, unless otherwise specified.

No.	Width of Jaws Inches	Depth of Jaws Inches	Jaws Open Inches	Weight Pounds	Price Each
1-P	4 1/8	1 3/16	2	20	24.00
2-P	5 1/8	1 1/4	2 3/4	30	25.00
3-P	6 1/8	1 9/16	3 5/8	55	34.00
4-P	7 1/8	2	4 1/2	95	51.00

SWIVEL

Fig. 1779B

Clamped to the base by either one of the two clamping bolts. No. 2-S has tongue for 5/8-inch slot; Nos. 3-S and 4-S for either 5/8 or 3/4-inch slot.

2-S	5 1/8	1 1/4	2 3/4	45	34 00
3-S	6 1/8	1 9/16	3 5/8	70	48.00
4-S	7 1/8	2	4 1/2	110	66.00

Furnished with bolts, nuts washers and clamps.

FLANGED

Fig. 1779C

Flanged vises are provided with flanges for clamping them to the table of milling or planing machines.

1-F	4 1/8	1 3/16	2	25	25.00
2-F	5 1/8	1 1/4	2 3/4	35	28 00
3-F	6 1/8	1 9/16	3 5/8	65	43 00
4-F	7 1/8	2	4 1/2	110	63 00
5-F	8 1/8	2 1/2	7	200	89 00

Furnished with bolts, nuts washers and clamps

ADJUSTABLE SWIVEL VISES

Fig. 1779D

Adapted for use on planing and surface grinding machines.

The vise can be set at any angle with the T slots of the table and is pivoted so that it can be set at any angle to 40 degrees either side of the horizontal.

Height Inches	Width of Jaws Inches	Depth of Jaws Inches	Jaws Open Inches	Weight Pounds	Price Each
4	5	1	2 3/4	40	38 00

Furnished with bolts, nuts, washers and clamps.

TOOLMAKERS' UNIVERSAL VISES

Fig. 1779E

The base is double. The lower part is provided with a reversible tongue which can be used in a 5/8 or 3/4-inch T slot. It is fastened to the table by two bolts, which fit into the table T slots

It has two sets of slots to allow for moving the vise back when set in a vertical plane. The upper part is a hinged knee which swivels on the lower part of the base

No.	Width of Jaws Inches	Depth of Jaws Inches	Jaws Open Inches	Shipping Weight Pounds	Price Each
2-T	5 1/8	1 1/4	2 3/4	80	83 00
3-T	6 1/8	1 9/16	3 5/8	160	110.00

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will give your Ford *more power, greater flexibility* and *better gasoline economy.* Price, in the United States east of the Rocky Mountains, $20.00 complete. Ask your Zenith dealer or write direct.

Zenith Carburetor Co.
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New York Chicago

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Sailing February 14, 1922

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The most interesting ever planned, including historic and romantic places—many of them off the usual routes of travel. Among others are the Azores and Madeira, Cadiz, Algiers, Palermo, Naples, Constantinople, Athens, Jerusalem, Cairo, Corfu, the Riviera and Corsica. Generous and extensive shore excursions are included.

The Date

Ideal for winter cruising in southern waters.

The Ship

The great liner, "GEORGE WASHINGTON"—one of the largest and most sumptuously appointed steamships afloat.

A Special Feature

the entire Cruise of two months—from New York back to New York—will be made on this one great ship.

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RAYMOND-WHITCOMB

The Best in Travel **TOURS & CRUISES** The Best in Travel

North Cape Cruise

From New York, June 25. S. S. "Emperor of India"

If You Are Going Abroad This Summer

the Raymond-Whitcomb Summer Cruise to Europe—by way of Iceland, the North Cape, the Fjords of Norway—is the ONE way for you to go—

BECAUSE it is the first cruise ever to sail direct from New York to the great Northern Wonderland.

BECAUSE the date—June 25—is right; you will be ready for your vacation and will see the Land of the Midnight Sun in all its full summer glory.

BECAUSE the exclusively chartered "Emperor of India" (*Kaisar-i-Hind*) is one of the palatial P. & O. ships, splendidly fitted for cruising.

BECAUSE, as a prelude to your European trip, you will have all the delights of cruising and in addition visit Newfoundland, Iceland, Norway, Scotland, Holland, Belgium and England.

BECAUSE, after the unworried days on the Cruise—free from tedium of travel-details—you may join one of our European Extension-Tours.

The accommodations on the S.S. "Emperor of India" (18,000 tons displacement) range from single rooms to suites with private bath. During the Cruise there will be shore excursions, included in the rate—$850 and up.

The Raymond Whitcomb Summer Tours to Europe visit the British Isles, France, Switzerland, Italy, Holland, Belgium, and the Great Battlefields.

The Raymond-Whitcomb Tours to Alaska, the Pacific Northwest and California will, as always, be unusually attractive and comprehensive.

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Winter cruises of 24 days on luxurious ships—visiting *Havana*, the gay and fascinating capital of Cuba; *Santiago; Port Antonio* and *Kingston* in Jamaica; *Panama* and the great Canal; *Port Limon* and *San Jose*, the vivid mountain capital of Costa Rica. Sailing from New York February 12, March 5 and 26. Shorter cruises from New Orleans on February 5 and 26.

SOUTH AMERICA

THE Raymond-Whitcomb Special Cruise-Tour of South America is the shortest comprehensive journey to the great Latin American countries ever arranged. In 50 days it visits *Rio de Janeiro, Montevideo* and *Buenos Aires*, crosses the *Andes* and returns up the West Coast with stops at *Santiago, Valparaiso* and other places.

It offers a golden opportunity to see our neighbor continent—whether your interests lie in its magnificent scenery, its splendid modern cities, its mysterious remains of prehistoric Inca civilization, or in the vast possibilities which it holds for American manufacturers and business men. Sailing from New York February 15, 1921. Rates $1485 and upward.

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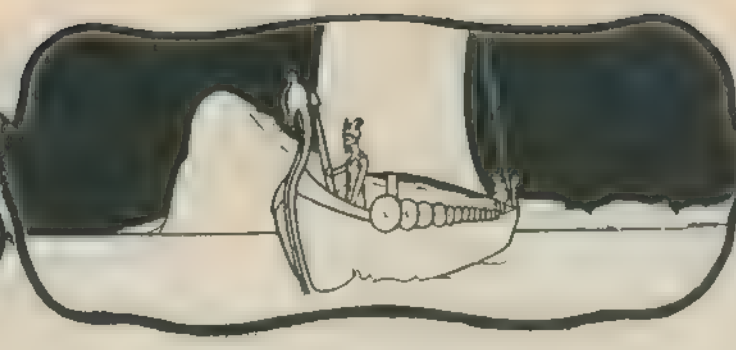

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To the Land of the Midnight Sun

The Raymond-Whitcomb North Cape Cruise by the luxurious P. & O. Liner "Emperor of India" (Kaisar-i-Hind) is the first North Cape Cruise since the War. Sailing in late June, the Cruise will include journeys to the magnificent Norwegian fjords, with visits to the North Cape, Scandinavian and Continental ports and Scotland. Attractive Shore-Excursions are scheduled and an unusual variety of optional European Extension-Tours. Full details on request.

To Cruise with Raymond-Whitcomb is to realize the luxury of sailing on a private yacht. In effect you are "part owner" in a splendid ship a delightful home to return to after sightseeing ashore. The pleasant informality of ship-life is always entertaining; excellent service assures your comfort. Your social inclinations are undisturbed—you may be as completely exclusive or as intimate as you wish.

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...used in making astronomical cal
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-unfailing accuracy

Accuracy of performance is demanded of a typewriter today. Its highest development is obtained in "Royal" construction.

The Royal Typewriter, like the astrolabe of old, is scientifically accurate. Its carriage runs on a ball-bearing track, geared for accuracy, and is positively locked against vibration in its normal, shifted or travelling positions. Its parts are rigid and the carriage moves as a unit with absolute certainty, insuring uniform alignment and perfect press-work of typewritten matter.

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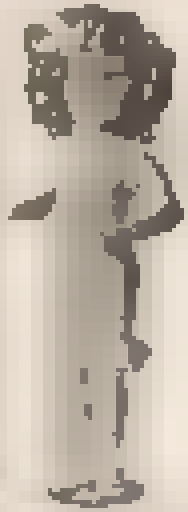

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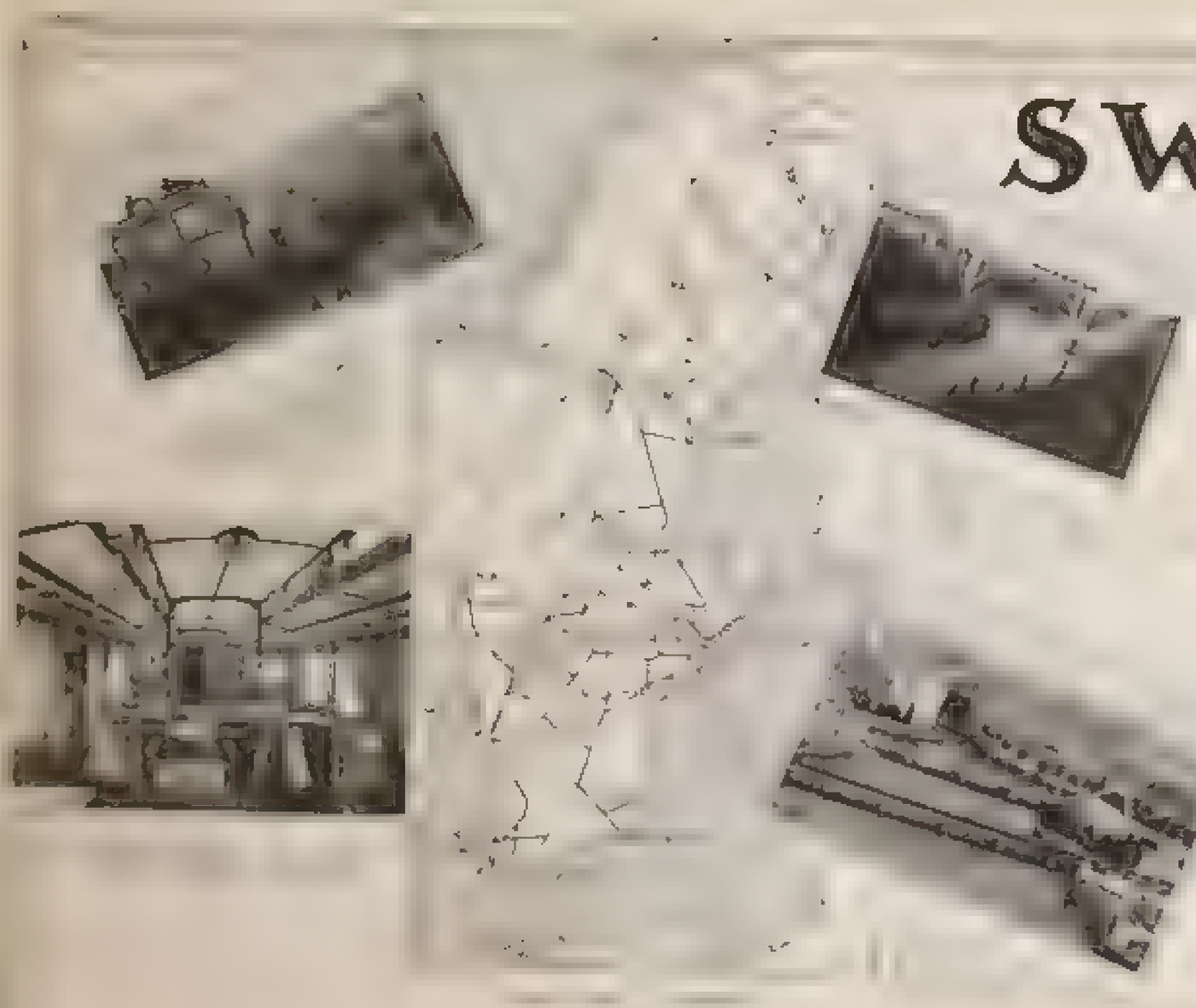

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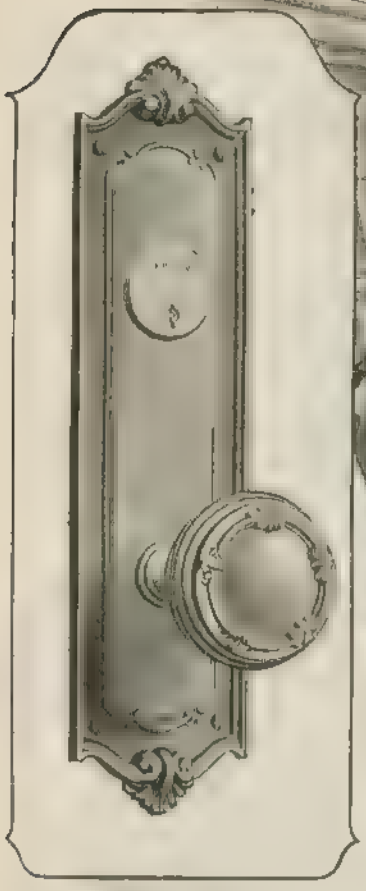

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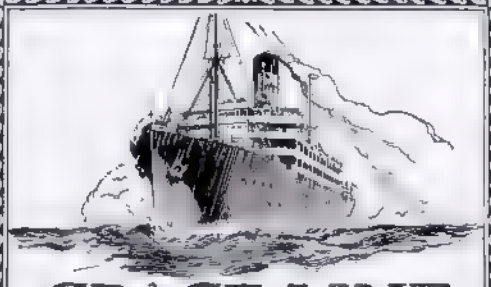

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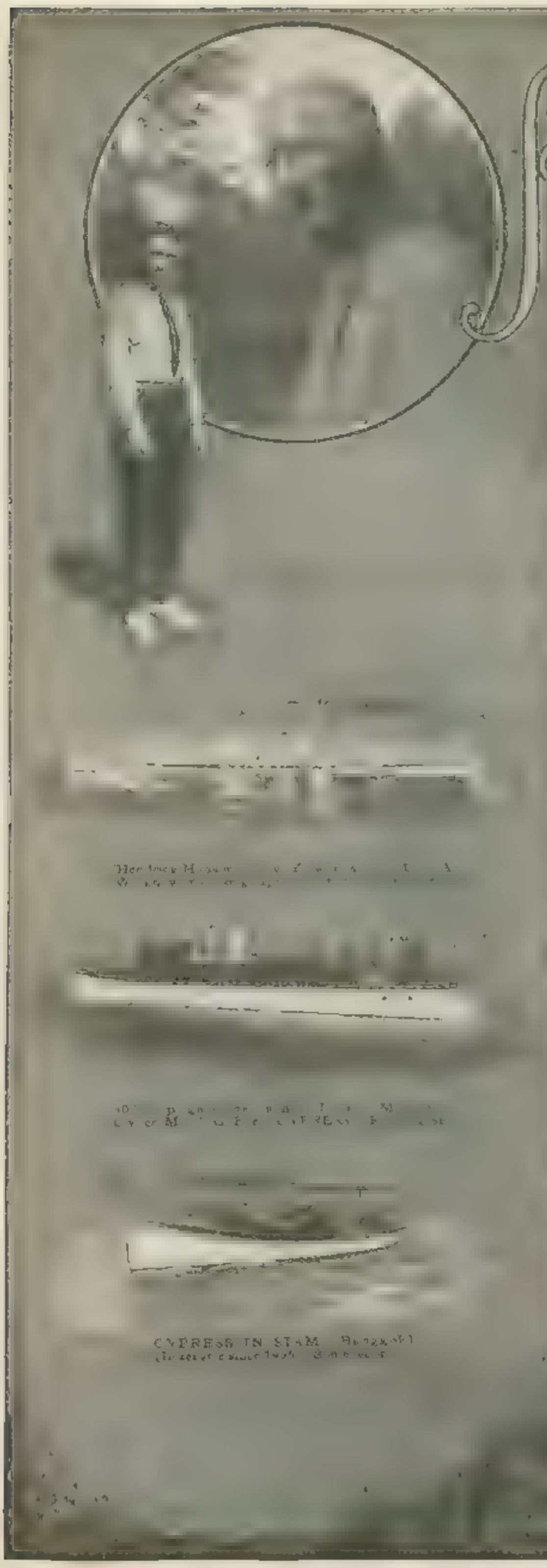

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Well, he runs the best hunter's lodge on sixteen lakes,
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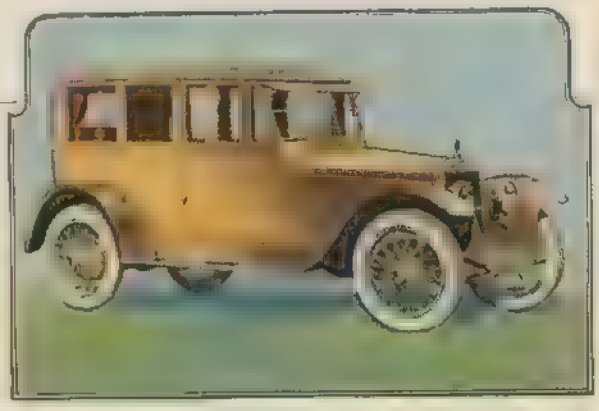

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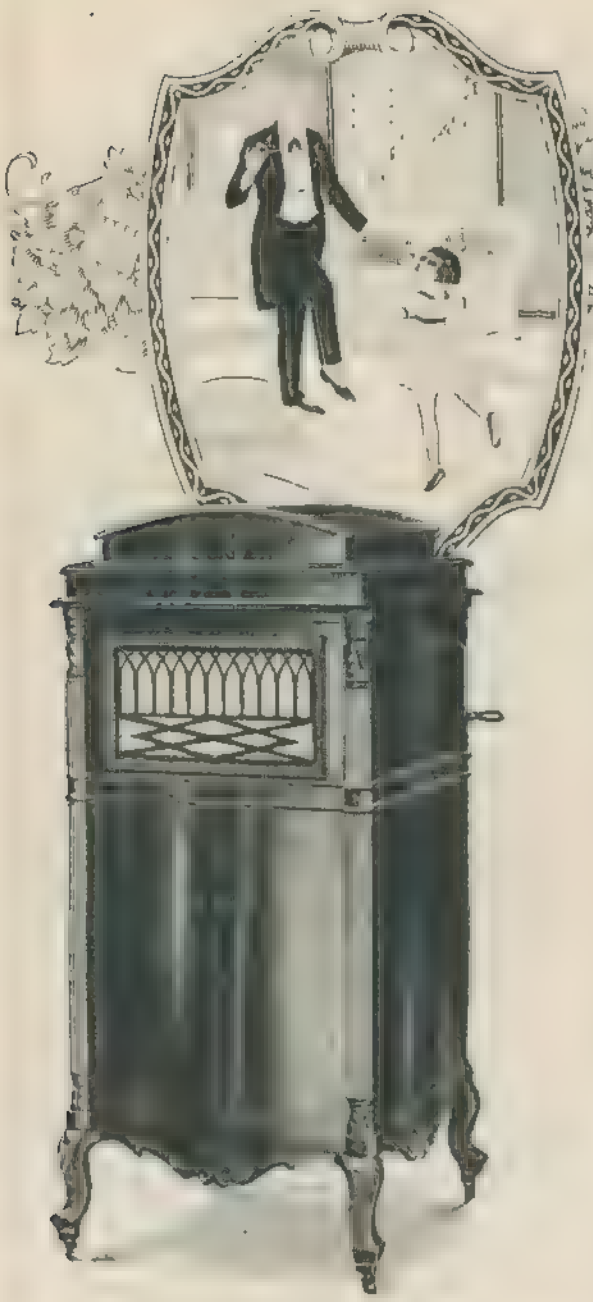

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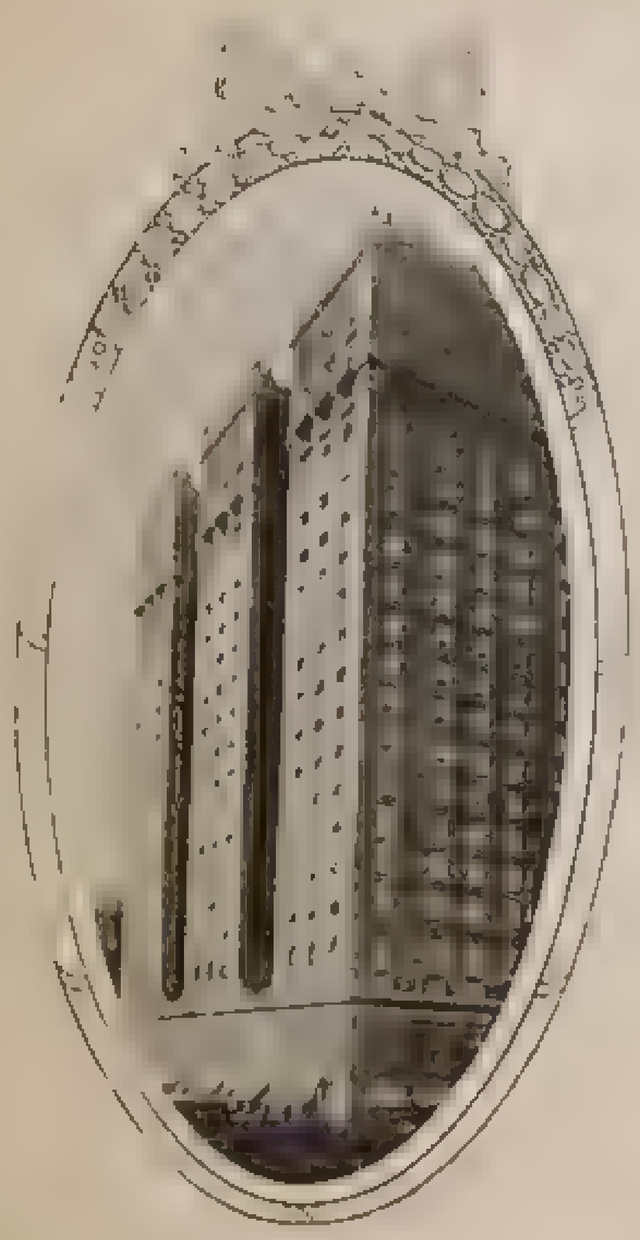

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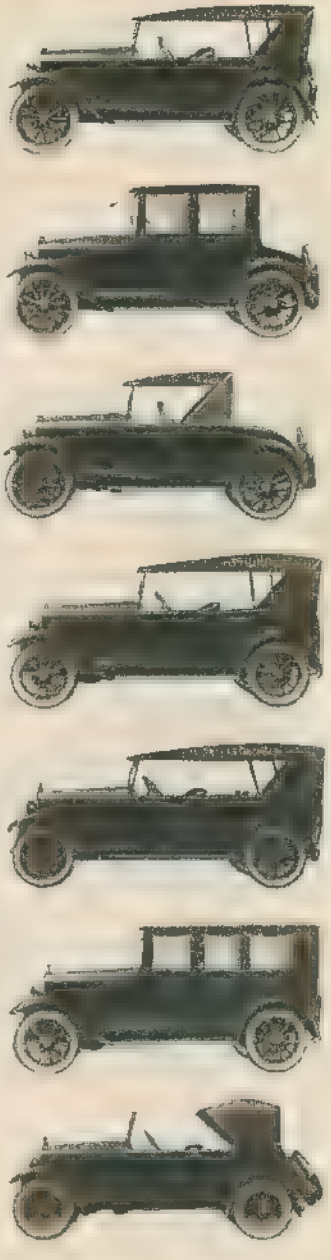

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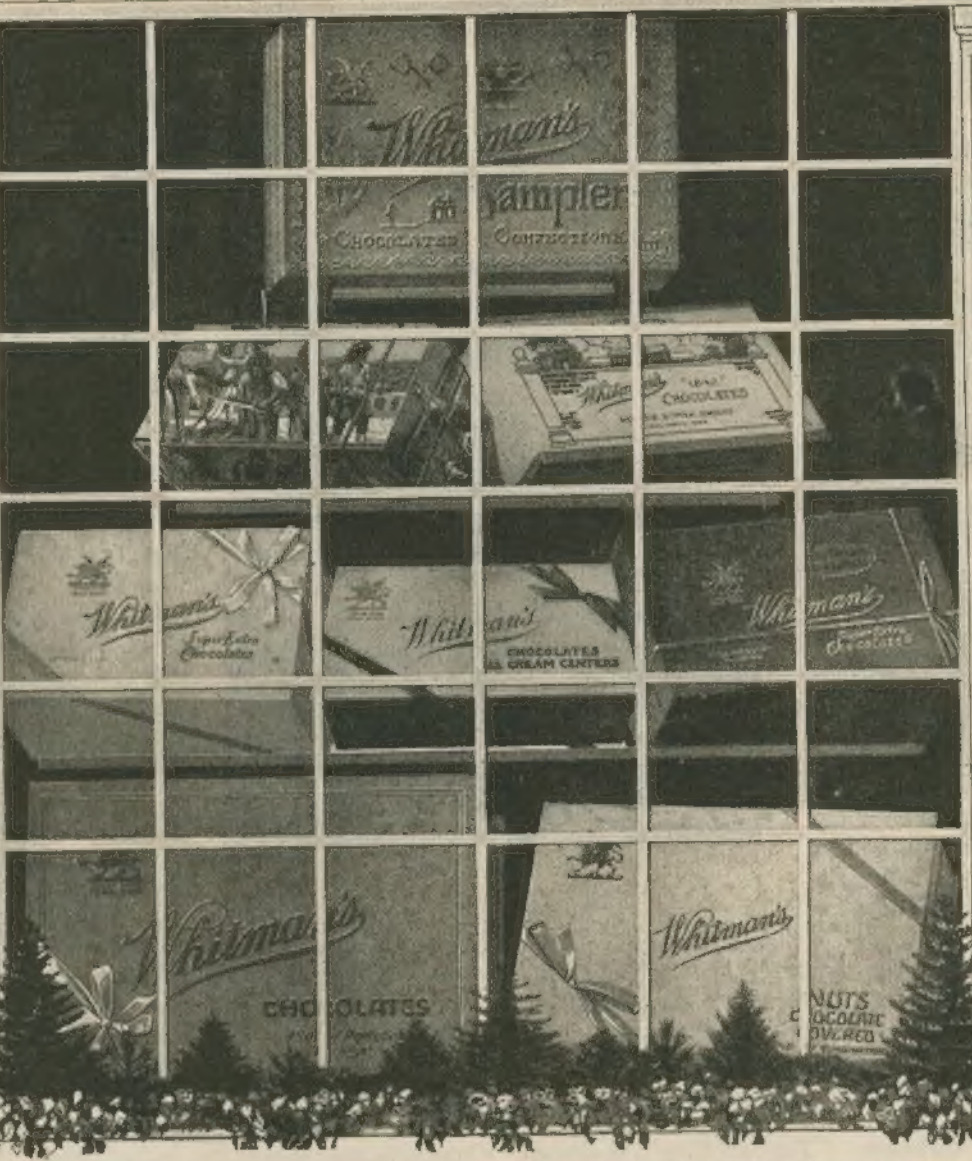

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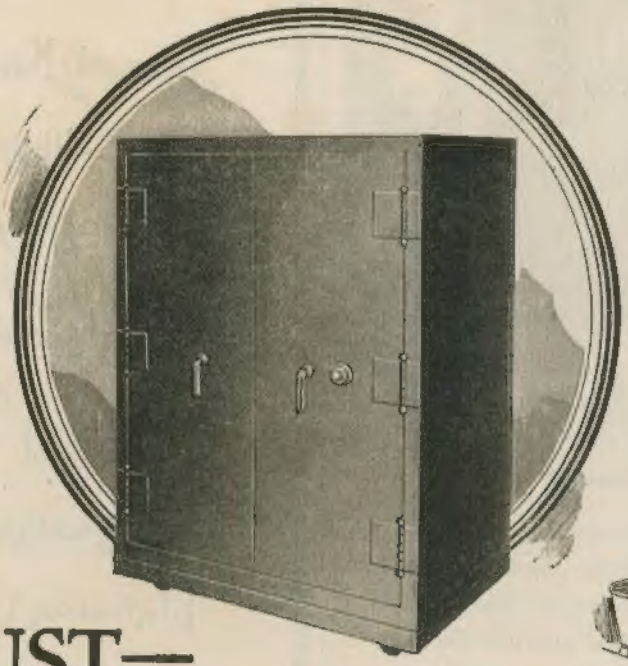

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